

# מדינת ישראל

משרד ראש הממשלה

גנזך המדינה

14

סמ' תיק

Government of Palestine  
Department of Health  
Drains & Sewers - Tulkarem

מרזבים וביוב - תוכנית לטולקארם

8 / 1944 — 2 / 1927

6593 / 14 / מ

סימול מקורי: 22/27

2.17 - 1.44

תיק מס'

מיכל מס'

מדינת ישראל  
גנזך המדינה



שם תיק: Drains & Sewers - Tulkarem

מזהה פיו: מ-14/6593

מזהה פריט: 0002k6a

כתובת 2-108-10-8-6

תאריך הדפסה 23/03/2016

מ

מחלקה

22/27  
NN/N

DRAINS AND SEWERS  
Tulkarem

ted file: 62/52

P.A.  
26-8-44

1648

22/27  
NN/N

22/27  
NN/N

DRAINS AND SEWERS

Tulkarem

file: 62/152

P.A.  
26-8-44

1648

22/27  
NN/N



COPY.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

62/152

COPIES FOR

22/27

26.8.44.

Asst. District Commissioner,  
Tulkarem.

Subject :- Post-war sewerage scheme etc. at Tulkarm.  
Reference:- Your TUL.1290/5 of 16.8.44.

In reference the above, the Sanitary Engineer of the Department has duly scrutinised the plans submitted and comments thereon as follows:-

- (a) In general, it is inadvisable to submit such types of work too far in advance of its probable execution. This is the first scheme of its kind received in this office: and circumstances such as housing development, town planning improvements to streets, and volume of sewage, etc., may be involved before the scheme matures.
- (b) In any case further details of the scheme will be required before technical comment is possible; Such details should include profiles of the sewers and streets giving size and gradient of the former, calculations for each sewer line giving figures for Q.V. and H.M.D.; also full particulars of each sewage disposal unit.
- (c) In connection with the latter, it is to be noted that the plan supplied is a tracing of our Standard Drawing S.160 with certain important features omitted. The size will necessarily depend on the volume of sewage to be dealt with, the strength of the latter, and the time assumed for retention or cycle. Further to the sewage treatment system, no provision has been made for the disposal of the effluent: On this matter will largely depend the extent of preliminary treatment and the siting of the entire unit or units.
- (d) As regards the Public latrines, the drawing is not completed in sufficient detail to pass any comment other than to note the omission of ablution facilities. A specification of materials, to include the urinal stalls, and a provisional site plan is also necessary.

2. The Municipal Engineer is aware of the requirements for the submission of sewerage schemes in view of past issues of the sort between his office and this Department, and there is nothing unusual in the data which is called for in connection with this new application.

The Sanitary Engineer is prepared to discuss the matters on the site when these preliminaries have been satisfied.

(Sgd) Colburn

A/DIRECTOR OF MEDICAL SERVICES.

Copy to: S.M.O. Nablus in duplicate.



COPY.

COPY FOR

Assistant District Commissioner's Office,  
Tulkarm.  
16.8.44.

No. TUL. 1920/5.

22/22

*original on 62/152*

Director of Medical Services,  
Jerusalem.

Subject:- Tulkarm Reconstruction Proposals.

I attach plans drawn up by the Municipal Engineer, Tulkarm, in connection with the extension of the municipal drainage system and the construction of public latrines in Tulkarm - two of the Tulkarm post-war development schemes.

2. I should be grateful if you would examine these plans, ask your Sanitary Engineer to visit Tulkarm and in due course direct what modifications are necessary before they can be approved by you.

Assistant District Commissioner,  
Tulkarm.

Copy (less enclosures) to: Reconstruction Commissioner,  
District Commissioner Samaria,  
S.M.C. Nablus.

EL/22/27

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.

Samaria District,  
Nablus.

22 AUG 1944

Subject :- Drainage and sewage schemes,  
Tulkarm and Qalqilya.  
Reference:- Your 1479 of 15.8.44.

It is regretted that the facilities of the Department are insufficient to cope with the work of preparing plans for Qalqilia drainage.

In such cases, the responsibility, under General Regulations, devolves on Public Works Department.

*W. S. S. S.*  
A/DIRECTOR  
MEDICAL SERVICES.

14625

E2C.

*copy 24/4/44*

*7*



DISTRICT COMMISSIONER'S OFFICES,  
SAMARIA DISTRICT,  
NABLUS.

No. 1479

27/27 17803  
27/27/42

15th August, 1944.

Director of Medical Services,  
Jerusalem. ✓

Drainage and sewage schemes, Tulkarm  
and Qalqilya.

It is very desirable that the Qalqilya sewage system should be extended as and when funds become available to the Local Council by loan or otherwise. But the first need is for proper plans of a complete system sufficient for the needs of the next twenty five years or so. But Qalqilya has no municipal engineer and the Local Council, which is a poor one financially, is rather at a loss as to how to get these plans prepared. As the scheme is not likely to be a large or very complicated one would it be possible for you to have the plans prepared for this deserving Local Council? If so the local and district authorities would be very grateful.

2. Qalqilya has a population of about 6500 and comprises about 1110 dwelling houses within an area of 379 dunums. The present sewage system consists of one 8" cement pipe-line of 1200 meters with 60 inspection chambers. This pipe-line carries the sewage to a point a few hundred meters west of the village. At this point the sewage runs on the surface of the ground for over a hundred meters before finally percolating into the ground. The Assistant District Commissioner, Tulkarm is at present in touch with your Sanitary Engineer with a view to having a percolation pit built as an immediate measure, provided the cost is not prohibitive. Only 75 houses are served (very inadequately) by this pipe-line.

3. The Local Council proposes that another 1500 meters of 8" pipe should be constructed together with 75 inspection chambers and a large percolation pit. All this they estimate to cost LP. 2430. On completion of the scheme the Local Council would impose a sewage rate of LP.2 per house per annum which should bring in about LP.600 per annum.

4. The Assistant District Commissioner, Tulkarm is forwarding to you for examination plans which have been prepared ~~for~~ a drainage scheme for Tulkarm town. It might be convenient ~~for~~ for these plans to be examined at the same time as plans for Qalqilya are prepared.

*D. Mac Gillivray*

DISTRICT COMMISSIONER,  
SAMARIA DISTRICT.

Copy to:- Reconstruction Commissioner,  
Jerusalem.  
Senior Medical Officer, Samaria.  
Assistant District Commissioner,  
Tulkarm.

IA.

*M. Z. P. Please advise the D.C. that in cases such as this the responsibility under the General Regulations falls on D.P. W. In our case it is suggested that the facilities of the Department are insufficient to cope with work of this sort.*



PERMIT NO. CE...1319/D....

Messrs Portland Cement Co.,  
"Nesher" Ltd.,  
P.O.B. 242, Haifa.

OFFICE OF THE CONTROLLER  
OF HEAVY INDUSTRIES, AND  
DIRECTOR OF WAR PRODUCTION.  
P.O.B. 661.  
JERUSALEM.

Date: 4.6.43.

Subject : Defence Regulations, 1939 - Control of Cement.

I have to refer to my Order published in Supplement No. 2 to Palestine Gazette No. 1170 of 22.2.42 and to request you to supply Portland cement as hereunder specified.

| Permit No. | Period    | For sale to                                                                                | Quantity tons.                   |
|------------|-----------|--------------------------------------------------------------------------------------------|----------------------------------|
| CE 1319/D  | June 1943 | A/District Commissioner, Talkarem. (for sewage disposal (fifteen tons & Scheme, Talkarem.) | 15.500 (fifteen tons & 500 lbs.) |

This permit is valid up to and including 30.6.43.

Copy to: A/District Commissioner, Talkarem.

" : Director of Medical Services,

Ref. his 24/22/27 of 27.3.43. ✓

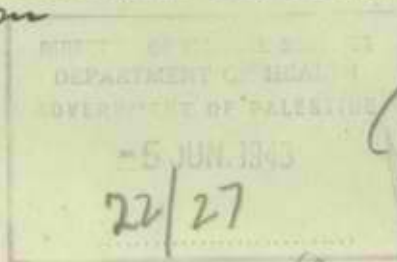
" : District Commissioner, Samaria.

(Sgd.) E. KEMPINSKI

18.

F. CONTROLLER OF HEAVY INDUSTRIES,  
COMPETENT AUTHORITY.

Note  
~~Copy to~~ Drgs. are returned to you  
herewith as requested 8/4/6



10648

7

Ph/22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

27 MAY 1948

Controller of Heavy Industries,  
Jerusalem.

-----

Subject:- Release of Controlled Material.

I enclose herewith a set of plans and copy of specifications in connection with a scheme for drainage disposal at Tulkarm.

The execution of this scheme is an urgent necessity and for which this Department has pressed the Municipality to undertake in view of the inadequacy of the existing system.

The plans have been finally approved by this office and I shall be glad if you will authorise release of the material asked for, returning the plans to this office.

*Copy to 7/6 done*

*2*

DIRECTOR  
MEDICAL SERVICES.

Copy to:- District Commissioner, Samaria.  
" :- A/District Commissioner, Tulkarm.

Enclos. 5 plans.

*1 sheet*

E2H.



Mr. Colburn.

(40)

Please see. If you  
agree to the computation, I  
am prepared to recommend  
release.

J. 24/5/43

OF HEALTH.

النموذج ا.م. ٣٧  
מס' 37

دائرة الصحة —

ORDINANCE, 1929.

قانون القوابل لسنة ١٩٢٩ -

of Liability to Infection.

تبليغ قابلية نشر العدوى من قابلية —

لחופא הממשלתי

حضرة طبيب الصحة .

מחלקת הבר

בדائرة الصحة .

(في مدينة) (שם העיר)

day of \_\_\_\_\_ 193\_\_\_\_, I was \*in

من شهر \_\_\_\_\_  
أخبركم انني في اليوم  
לחודש \_\_\_\_\_  
הנני מודיעה כזה שביום

(insert name and address of person)

(اذكر اسم وعنوان الشخص)

مع  
עם

المستحق اعطاه معداً:

(22)

Enc. 5. Ref. the recent requirements for  
the sewage disposal of Sultana, I  
have checked the quantities as far as  
possible from the attached plans.  
The figures for the pipe line & the  
manholes are approx. correct; but the  
new treatment unit is only  $\frac{1}{2}$  of the  
size indicated on the application for  
material.

As in previous cases however, the  
Controller's office with no doubt desire  
to satisfy <sup>themselves</sup> ~~themselves~~ regarding the details  
of the figures; & I therefore suggest  
that the plans be sent on loan,  
with the application, for this purpose.  
Inconsistencies may then be checked  
by direct correspondence or personal  
interview with the responsible Engineer.  
So far as we are concerned, the  
project is satisfactory in principle &  
sufficiently important to justify  
early release of materials for  
execution.

25-5-43.

*Chas. R.*



(Invert name of condition)

(לשם את עם מחלה)

(اذكر اسم المرض)

I am myself suffering from  
or have recently suffered from

ואני نفسي مصابة أو أصيبت مؤخراً بمرض  
שמו בעצמי סובלתי סובלתי לא מכבר ממחלה

Signed

האחראי

*Licensed Midwife or Registered Dayah.*

דחום

\*האולה הרשומה או האדאית הרשומה. \*טולדה בעדה רשון או דאח רשומה.

Address

הכתובת

Date

התאריך

התאריך

\*Cross out the words not applicable. \*למחוק את המילים שאין צורך בהן. \*אשטבח הכתובת غیر المطابقة.

Mr. Ehrlich,

(28)

A copy of attachment of  
7 (37) together with plans  
(to be returned) should be sent to  
Col. H.I. with our strong  
recommendation for release.

26/3/43

NT OF HEALTH.

דائرة الصحة — מח

النموذج ا.م. ٣٧

موسم ٣٧

RDINANCE, 1929.

قانون القوايل لسنة ١٩٢٩ —

of Liability to Infection.

تبليغ قابلية نشر العدوى من قابلة — הודע

לרופא הממשלתי

מחלקת הבריאות

حضرة طبيب الصحة،

بدايرة الصحة،

(في مدينة) (שם העיר)

day of \_\_\_\_\_ 193\_\_\_\_, I was \*in

من شهر  
لחדש

اخبركم انني في اليوم  
הנני מודיעה בזה שביום

(insert name and address of person)



21 MAY. 1943

No. 22/27

9745

No. TUL. 409/69.

Assistant District Commissioner's Office,  
Tulkarm.

19th May, 1943.

(37)

Director of Medical Services,  
Jerusalem.

Subject :- Tulkarm Sewage Disposal Scheme.

I understand that you have already approved, in your letter No. 22/7 of 23.4.43., the plans drawn up by Mr. Oswald Skall, C.E. Municipal Engineer, Safad, on behalf of the Municipal Commission of Tulkarm for a new drainage system upon which it is desired to start work as soon as possible.

2. The execution of this scheme is urgently necessary in view of the manifest inadequacy of the present sewage system which has become a public nuisance dangerous to the health of the community.

3. I shall therefore be most grateful if you can recommend the Controller of Heavy Industries to issue a permit for the release of 15  $\frac{1}{2}$  tons of cement in accordance with the attached detailed schedule of requirements drawn up by the Engineer.

(4)

*J. H. [Signature]*

Assistant District Commissioner,  
T u l k a r m.

Copy to District Commissioner  
Samaría.

*[Signature]*

# Cement Requirements for Sewage Disposal Scheme, Tulkarm.

## PIPE LINE:

|                                               |          |
|-----------------------------------------------|----------|
| 900 m long                                    |          |
| 22 old Sept. Tank                             |          |
| 16 m manholes                                 |          |
| 22 m New Sept. tank                           |          |
| 840 m net length and 420 headsx 2.5 kgs./head | 1000 kgs |

## Man-Holes:

|                                                                          |      |
|--------------------------------------------------------------------------|------|
| 16 x 50 kgs each                                                         | 800  |
| Walls $80m^2 \times 0.10 = 8 M^3$ x 200 kgs                              | 1600 |
| Covers $16m^2 \times 0.10 = 1.6 M^3$                                     | 500  |
| Plaster $80m^2 \times 0.02 = 1.6 M^3$                                    | 800  |
| High Levelling of pipes $34m \times 0.1 \times 0.6 = 2.0 m^3$ x 200 kgs. | 400  |

## New Disposal Tank:

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Floor $45 m^2 \times 0.15 = 6.8 M^3$   |                                  |
| Walls $63.3 m^2 \times 0.10 = 6.3 M^3$ |                                  |
| Cover $45 m^2 \times 0.15 = 6.8 M^3$   | $= 20 M^3 \times 250 kgs = 5000$ |
| Plaster $63 m^2 \times 0.02 = 1.3$     |                                  |
| + 0.5                                  | $= 1.8 m^3$                      |
|                                        | 900                              |

## Old Tank Repairs.

|                                                    |            |
|----------------------------------------------------|------------|
| Ver. walls $30.8 m^2 \times 0.1 = 3 m^3$ x 300 kgs | 1000       |
| Plaster-Floors $51 m^2 \times 0.02 = 1 m^3$        |            |
| Walls $16.1 m^2 \times 0.02 = 3.2$                 | $= 4.2$    |
|                                                    | 2100       |
|                                                    | 14,100 kgs |
| 10 %                                               | 1,400      |

Total Requirements 15,500 kgs.

=====



22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

36

Sir,

4 MAY 1943

The plans as corrected are now satisfactory.

One corrected set has been retained in this office,  
an one forwarded to Municipality Tulkarem thro' M.O.H.

Tulkarem.

The original set is returned herewith for  
suitable correction and submission to the M.O.H.  
Tulkarem for retention.

I am, Sir,

Your obedient servant,

*J. P. H. H. H. H.*  
DIRECTOR  
MEDICAL SERVICES.

9345-7.

Mr. Oswald Skall,  
Municipal Engineer,  
Safad.

*Encl.*  
*6 Plans each*

Copy to:- S.M.O. Nablus.

→ M.O.H. Tulkarem, with 1 corrected set of plan

E2R.

27



1901

1901

Oswald Skall, C.E.,  
Safad, 2. 5. 1943  
Municipality

(35)

Director of Medical Services  
Jerusalem

Sir,

Subject: Sewerage and Sewage Disposal Scheme, Tulkarm  
Reference: Yours 22/27

As I received an urgent call from the Municipality of Tulkarem I would be very glad if you could kindly forward one set of the approved scheme to the Municipality as they are apparently very much in need of the plans.

In case you could let me know the date when the plans have been forwarded to Tulkarm I would be very much obliged.

Thanking you very much in advance, I have the honour  
to remain,

Sir,

yours most respectfully

Z. O. Kelly

7



Director Of Medical Services  
Jerusalem

Sir,

Subject: Sewerage and Sewage Disposal Scheme, Tulkarem.

Reference: Yours 22/27, dated 23. 4. 43

I thank you for the approval of my plans and forward herewith the corrected designs for the existing tanks in compliance with points b) and c) of your letter.

As to point a) of your letter, concerning the arrangements at manhole loA, I think there is a misunderstanding caused by an ill chosen word of my last letter, as I did not intend to cart the effluent away in open wheelbarrows but in containers put on wheelbarrows or in closed carts as are allready in use by the Municipality of Tulkarem.

With many thanks, I have the honour to remain,

Sir,

yours most respectfully

*Z. O. Ball*

*Enclured 12 plans*

*Copy: Municipality Tulkarem*



*Mr Colburn*

*to see 2.30/4/43*

*8217.*

Gerald Skell C.E.,  
Municipal Engineer  
Safad, 21. 4. 1943

Director of Medical Services  
Jerusalem

Sir,

Subject: Sewage Disposal Scheme, Tulkarem  
Reference: Yours 22/27

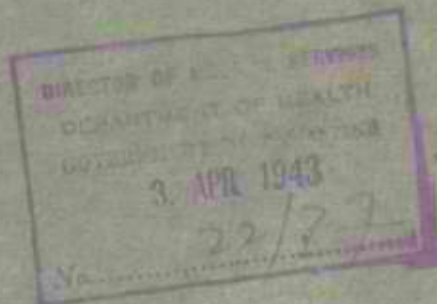
I would be very obliged if you kindly could let me know what happened with the plans of the above mentioned scheme, forwarded to you on the 4th inst. for final approval.

Thanking you in advance, I have the honour to remain,

Sir,

yours most respectfully

*Z. J. Kelly*





22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

32

23 APR 1943

Sir,

Subject :- Sewerage and Sewage Disposal  
Scheme, Tulkarm.

Reference:- Your letter dated 2-4-43.

The plans submitted are approved subject  
to the following exceptions:-

(a) Further consideration regarding the  
arrangements at manhole 10A will be required  
as effluent (liquid) cannot be 'carted away  
in wheelbarrows' !

(b) A baffle wall should also be included  
in the existing circular tank as now indicated  
on plan.

(c) The inlets, outlets and baffle proposed  
in the existing octagonal tank should be  
rearranged as indicated.

Yours faithfully,

Sgt. J.H.P.

DIRECTOR  
MEDICAL SERVICES.

84 97-99.

12 follows Mrs. Oswald Skall, C.E.,  
Municipal Engineer,  
Safad.

Copy to:- S.M.O. Nablus.  
" :- Municipality, Tulkarm.

SEU/H.

7

87-19-20

Reg. supd 2325  
Director Of  
Medical Services  
Jerusalem

Oswald Skall C.E.,  
Municipal Engineer  
Safad, 2. 4. 1943

31

Sir,

Subject: Sewerage and Sewage Disposal Scheme, Tulkarm.  
Reference: Yours 22/27, dated 16. 3. 43

All the requests stated in your last letter, have been complied with.

Ad point 4. I forward a plan of M.H. 10A. For this a point has been chosen with a comparative high ground level, between two roads, which are approx. 1 m lower, so that an easy access to the manhole-outlet can be arranged to cart away the effluent either in wheelbarrows or carts.

Ad point 5. Find attached please the respective drawing. As the existing connections between the 3 containers are inadequate I propose to destroy them (4"-pipe and stone-channel) and to insert the shown 8" pipes instead with inlet and outlet "T's", at the proper level. Furthermore I suggest to build in the first chamber the 3 shown baffle walls and install there also a sludge pump. In the middle chamber I think one baffle wall should do as the whole width is only 3,40 m.

Find attached please 3 complete sets of sunprints for your kind and final approval. I would be very obliged if you kindly would forward the third set with your approval to the Municipality of Tulkarm, as from this depends the payment of my fees.

Thanking you very much in advance, I have the honour  
to remain,

Sir,

yours most respectfully

Zy. A. Kallf

Reply:

The plans submitted are approved  
Subject to the following exceptions:-

Encl. 6

Ref. this above the plans may now be  
approved with the following exceptions:-

- (1) For this consideration regarding the arrangements at manhole 10A will be required as effluent (liquid) cannot be 'carted away in wheelbarrows'!
  - (2) A baffle wall should also be included in the existing circular tank as now indicated on plan.
  - (3) The inlets, outlets & baffle proposed in the existing octagonal tank should be rearranged as indicated.
- 16 - 4 - 43.

DIRECTOR OF MEDICAL SERVICES  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE

6 APR 1943

No. 22/27.

6676.

Copy to: Safad Municipality, Tulkarm



22/27.

11 6 MAR 1943

Municipal Engineer,  
Safad.

Reference the sewerage and sewage disposal scheme proposed for Tulkarm, the principles are satisfactory and closely follow the Sanitary Engineer's recommendations as set out under Kh/22/27 of 9-7-41.

2. The distance between manholes, however, may be increased up to 60 metres, this economy being comparatively free of risk where only effluent is carried by the 8" sewers: The manhole covers may be of the type specified by the Engineer.

3. The gradient of each sewer line should be indicated on the plan as well as the profile.

4. All arrangements for putting the effluent to use at manhole 10<sup>A</sup> should be properly worked out (hand pump etc.?).

5. A detailed drawing of the existing sedimentation tanks should be prepared and measures considered for their improvement, in the design of baffle walls, inlet and outlet pipes etc.

6. Two sets of the final prints should be submitted - one for retention in this office, and one for signed approval and return to the District Health Office.

*L*  
DIRECTOR  
MEDICAL SERVICES.

5492-4

Enclos. 4

Copy to:- S.M.O. Nablus.  
" " Municipality, Tulkarem.

SEU/P.

21-3-43,

*Notes for file. Municipality visited & details of scheme as above discussed with Mayor, M.O.H. & Engineer. Final plans with schedule of materials required, to be submitted to this office.*

*[Signature]*

*L*

*7*



## DAILY RECORD OF INFECTIOUS DISEASES

DISEASE *Chicken Sore* DISTRICT *Sandallah* MONTH OF *February* 19*29*

9

3

| NEW CASES | CURED          |
|-----------|----------------|
| DEATHS    | REMAIN-<br>ING |

10918--2500--B. M. P.

[illegible]

With only 2 further Back-Drops and in between 3 % gradient, the line runs to Diverting M.H. 19A in order to allow the effluent to bifurcate, one sewer running to point no. 10A, where a permanent supply manhole has to be built with an outlet, closed by a sluice-gate (same like shown on the diverting chamber of my sheet no. 3) for the use of the "Agricultural School".

The other branch leads to point no. 1. and from there, close to the wady in *straight* line to the Railway-Culvert. Gradient up to M.H. point 4 is 3 %, from there up to point 7 in wady 2,5 %, from there to Percolating Pit (existing) 1,5 %. As this pit, which should be incorporated in the scheme, is 75 cms higher than the ground level below culvert, it is unavoidable that the line should cross a stretch of approx. 28 m overground. For this I suggest building a pipe-foundation of a 60 cms wide stone wall on top of which the pipes shall be laid in 5 cms high p.c.c.-bedding and benching.

Short after the Railway-Culvert another diverting chamber has been incorporated in the line, for future use, as the Municipality shall need to build additional percolating pits connected with this diverting chamber, when the existing one should show to be insufficient. (iii)

All Manholes, Inspection Chambers, etc., being of approved type (P.H.D. standard specification) maximum distance: 40 m, max. dept 2,30 m (two manholes only, rest being below 2 m)

Although I showed the Manhole Covers in the plans as squares, like in your S 160, I would suggest to make it a condition that only covers of the "antimalaria"-type should be used, which are round ones, a plan of which is attached. The reason of this suggestion is, that those covers have been used in Haifa, and also in Safed by me, with good results.

The Disposal Unit should be and has been designed, according to your letter, dated 26. 5. 42 para a), on the basic assumption of a 4 hours-flow-cycle, i.e. 46.800 galls/day : 6 = 7.800 galls/4 hours. 7.800 galls x 4,543 = 35.200 lit = 35,2 m<sup>3</sup>.

The Disposal Unit, adapted from your S 160 (Standard Type) has a volume of just under 36 m<sup>3</sup>.





Director Medical Services  
Jerusalem

Your Reference: EM/22/27

Technical Report for "Sewage Disposal Scheme", Tul-Karm.  
=====

i) As set out in your letter, dated 9.7.41, basic assumptions are: 12 galls. p.day and 3 900 heads = 46 800 galls/day consumption. Dry-weather-flow x 2 = 23 400 galls/6hours-cycle.

Out of this figure, equivalent to 4,92 lit/sec. and with a coefficient of 35 (for effluent with high incrustation capacity) the following maximum gradients result:

For 6"-pipes . . . . . 4 %

" 8"-pipes . . . . . 3 %

if the maximum velocity of the effluent is limited to 2 m/sec.

The minimum gradient I fixed in my plans as being 1,5 % for the reason that the line will be doubtlessly laid by local labour and according to my practical experience there are always difficulties arising out of laying pipe-lines with a lower gradient than 1,5 % if there are no specially trained craftsmen for such a purpose available.

Since the Mayor told me he would like the whole line to be of 8"-pipes, (and I presume the reason for it being, that there is an old stock of 8"-pipes in Tul-Karm) I designed the whole line with a maximum gradient of 3 % in order to be able to lay it with only 8"-pipes all-through, provided you should rise no objection.

ii) Lay-Out

As allready stated in your letter, dated the 26.5.42, the line should run from the old septic-tank along the Main Road up to a point near the first culvert and then cross over on the lands of the Town-School.

I took a few levels on the northern side of the Main Road too and found that the natural slope of the ground between road-culvert and my point no. 12 is so slight that this would result in a gradient of the line less than 1,5 % which I consider to be too small under given circumstances as set out allready above.

For reasons of economy I suggest of making it a condition that the existing tank should be desludged, cleaned and brought up to proper working condition, in order to help in the scheme with presedimentation and therefore allowing us to keep the other units smaller.

Starting with a Back-drop M.H. connected with the old tank, the line runs with 2,9 % ~~straight~~ until a point before the first road-crossing. From there with 1,5 % over the school land up to the new sewage treatment unit, the whole line being without any Back-Drop M.H.

The end of the Treatment Unit is directly connected with a Back-Drop M.H. in order to gain the necessary coverage of min. 1 m for the pipes under the second road-crossing.

P.T.O.

E4/22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

Medical Officer of Health 8 JUN 1942  
TUL-KARM.  
-----

Subject :- Extention of Drain - Tul-Karm.  
Reference:- Your letter No. TK/11/42 dated  
25.5.42.

The line of the sewer proposed on the plan submitted is satisfactory with the exception of the part amended in green.

The profile and details referred to under para 2 of E4/22/27 should however, be submitted for approval before any work is commenced in this scheme.

Enc. 1 plan

  
DIRECTOR  
MEDICAL SERVICES.

10475

SEU/V.

7



14

O.M. 246

GOVERNMENT OF PALESTINE.

DEPARTMENT OF HEALTH.

## MONTHLY SCHOOL MEDICAL RETURN.

Town Tul KharMonth of December 1933.

District \_\_\_\_\_

1920-3000-234731 C.M.J.P.

|                                     | Govt. | Voluntary | Totals |
|-------------------------------------|-------|-----------|--------|
| Total No. of Inspections of Schools | 1     |           | 1      |
| " " Visits to School Clinics        | 1     |           | 1      |
| " " Lectures given during month     |       |           |        |
| " " Teachers attended Lectures.     | 1     |           | 1      |

|                                     | 1st Exam.<br>Under 8 years | 2nd Exam.<br>8-11 years | 3rd Exam.<br>Over 11 years | Total |
|-------------------------------------|----------------------------|-------------------------|----------------------------|-------|
| No. of children examined            |                            |                         |                            |       |
| " " with trachoma                   |                            |                         |                            |       |
| " " " other eye diseases            |                            |                         |                            |       |
| " " " defective vision              |                            |                         |                            |       |
| " " " verminous head or body        |                            |                         |                            |       |
| " " " 4 or more teeth badly decayed |                            |                         |                            |       |
| " " " enlarged submandibular glands |                            |                         |                            |       |

Reply: -

The line of the sewer proposed on the plan submitted is satisfactory with the exception of the part amended in green.

The profile & details referred to under para. 2. of E.H. 22/27 should however, be submitted for approval before any work is commenced on this scheme.

b - b - 42.

(14)

10/20/1911  
DIRECTOR

*File.*

Groups A, B, C, D, E & F.

TK/11/42.

REGISTERED.

Department of Health.

TUL-KARM.

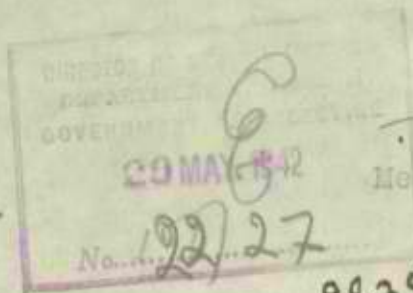
25th May 1942.

Military Engineer,  
Department of Health,  
J E R U S A L E M.

Subject:- Extention of Drain - Tul-Karm.

Attached please find a sketch of a plan prepared  
by the Municipal Engineer, for favour of consideration.

A.KH/MH.



*[Signature]*  
Medical Officer of Health.  
TUL-KARM.

9838



Recd Safad 1644

Oswald Skall C.E.,  
Mun. Eng.  
Safad, 2. 3. 1943  
Municipality

29

Director Medical Services  
Jerusalem

Sir,

I have been called upon to make the plans for the "Sewage-Disposal-Scheme" on behalf of the Municipality of Tulkarem and forward herewith attached to this letter my original plans for the purpose of scrutiny and provisional approval.

In order to save sunprint-paper which is rather difficult to obtain I choose this way of sending the originals and would be very grateful if any alterations desired would be marked in in soft pencil. I shall, after having been notified of your requests, draw up the final scheme and forward to you as many sunprint-sets as you should require for your final approval. Will you please let me know how many of them you need.

Thanking you very much in advance, I have the honour to remain,

Sir,

DIRECTOR OF MEDICAL SERVICES  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE

8 MAR 1943

22/27

4718

Fry O. Kelly.

Copy: Municipality Tulkarem

Mr Colfax

9.3.43

124

E4/22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.

Samaria District,  
N A B L U S.

26 MAY 1941

Subject:- Sewage Disposal at Tulkarem.

In connection with the above, the details discussed at a recent meeting of the Sanitary Engineer of the Department with the Mayor and M.O.H. Tulkarem, are confirmed herewith as follows:-

(a) The design of the treatment unit should follow the details referred to in my 22/27 of 9-6-41 and 21-11-41; the size of the tanks being based on the water consumption (12 galls. per head per day x population served), as estimated at present and for future maximum; the interim and the final units being calculated on these respective figures divided by 6 to obtain a 4 hours flow cycle: The latter will be permitted as a minimum provided the existing tanks are also used to give some measure of preliminary sedimentation to the crude sewage.

(b) The new treatment unit may be sited in the land either south or north of the main road, and opposite the School of the Town; the sewer extension between the old and new unit being laid across the School land or in one of the road margins.

(c) The effluent pipe from the new unit should then be laid under the main road and thence parallel with & close to the internal fence of the Agricultural School: At its junction with the internal road of the latter School, the sewer should be arranged to bifurcate west and east, the former to serve a double system of irrigation, and the other to carry the overflow north into the sewer discharge system of the Agricultural School.

./.+

District

[illegible]



The above arrangement has been agreed to by the Principal of the above mentioned School.

2. Plans, profiles and details of the scheme as here finally proposed, should be prepared and submitted to this office for scrutiny and approval before the commencement of the work.

  
DIRECTOR  
MEDICAL SERVICES.

Copy to:- Mayor, Tulkarem. 9406-8.  
" M.O.H. Tulkarem.

SEU/H.

X



COPY FOR FILE AS 22/27

EXTRACT FROM *Enc. to 100/1 of 16.5.52*

9. Drainage. The matter of the disposal plant for the Tuller-on drainage was discussed with the Mayor and he was asked to complete it as soon as possible. He should send his engineer to see Mr. Colburn of the Department of Health with plans and Mr. Colburn would advise on the special employment of an engineer capable of constructing the disposal plant. The matter of the utilization of the Army disposal plant could be deferred and a smaller and temporary plant be constructed for the Tuller-on drainage.

1. Name of Village

اسم القرية  
שם הכפר

2. Date of Death

تاريخ الوفاة  
יום מותו

3. Name of Deceased

اسم المتوفي  
שם המת

4. Place of Residence

مكان اقامته  
מקום מגוריו

5. Age

عمره  
גילו

6. Sex

ذكر ام انثى  
איש או אישה

7. Nationality

جنسية  
הלאום

8. Religion

مذبة  
דתו

סמכו

GOVERNMENT OF PALESTINE

100,4314-500 Bks-7-8074 TEL.



7/6

D. M. S.  
Dept. of Health,  
Jerusalem.

24

25  
SENIOR MEDICAL OFFICER  
SAMARIA

DEPARTMENT OF HEALTH  
NABLUS

19 FEB. 1942

Subject:- Sewerage & sewage at Tulkarem  
Reference:- Your E4/22/27 of 21.11.41.

The attached copy of letter from the  
President of the Municipal Council of Tulkarem  
is forwarded.

DIRECTOR OF MEDICAL SERVICES  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE

20. FEB. 1942

N 22/27

ENCLOSURES

3512

*Abu Rahmeh*  
S. M. O.  
SAMARIA DISTRICT

*See (v) to see*

*[Handwritten signature]*

46/3

22.1.42.

M. O. H. Tulkarem  
-----

Subject:- Sewerage & sewage disposal at Tulkarem  
Reference:- Your 11/42 of 7.1.42.

I beg to inform you that the Municipality put forward a report to Asst. District Commissioner, Tulkarem on 20.11.41. in which they asked for a permission to connect Tulkarem drains with the percolating pit, established by the Army, & which is situated to the west of the land of the Agricultural School. Communication in this respect is still going on.

Therefore I see no use to prepare a plan before taking the final reply in regard to the above mentioned percolating pit, especially the Municipal Engineer is fully occupied with the construction of streets in view of the presence of the roller at Tulkarem.

Sgd. Hashem Jayousi  
President,  
Municipal Council  
Tulkarem

Copy to:- Asst. Dist. Commissioner, Tulkarem.

El/22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.

Samarria District,  
Nablus.

-----

Subject:- Sewerage & Sewage disposal at Tulkarem.

In connection with the above, the Sanitary Engineer of the Department visited the site on the 10th instant, and inspected the work in conjunction with Dr. Khartabil and the Municipal Engineer.

With the exception of some minor features concerning the quality of the pipes and concrete, the construction of the sewers appears to be satisfactory in general.

2. As regards the question of improving the arrangements for sewage disposal - the unsatisfactory nature of the present arrangements having been pointed out on several occasions since March 1940 - no appreciable action appears to have been taken to date.

Further to this matter, a request was made in my memo, 22/27 of 9.6.41 for a plan and sectional profile of the effluent outfall sewer (proposed through the land of the Agricultural School), the route of the sewer having been approved in principle on the 5th April, 1941.

At the recent visit of the Sanitary Engineer, an unfinished profile only of the route was available; and the Municipal Engineer appears to have given no consideration to the provision of the required sewage treatment unit. The attention of the Mayor should therefore be drawn to the necessity for an early settlement of this matter, the present sewage treatment system being most unsatisfactory in result: It is regretted that the Mayor was not present at the recent visit of the Sanitary Engineer and that, therefore, the matter could not be discussed with him personally.

P.T.O.

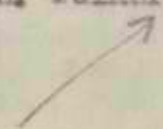
3. A copy of a standard plan showing the type of sewage treatment unit recommended is, as promised at the time of the meeting, forwarded with copy of letter to M.O.H. Tulkarem. The adaption of the design to local conditions, both as regards size and detailed construction, is a pre-requisite to its final approval by this office. The siting of this unit, as well as the question as to whether the existing tanks should be incorporated in the scheme, is also a matter for final consideration.

I should be glad if you would consider this matter as urgent, in conjunction with the construction of sewers at present in process, and take action accordingly.

  
DIRECTOR  
MEDICAL SERVICES.

18.09.5-6.  
Copy to:- M.O.H. Tulkarem; with plan referred to (S.160).

SEUS.

Enc. 1 plan 

7



Messrs.  
Portland Cement Co. 'Nesher' Ltd.  
P.O.B. 242, Haifa.

Subject : Defence Regulations, 1939 - Control of Cement

Gentlemen,

I have to refer to my order published in Supplement No. 2 to Palestine Gazette No. 1081 of 6-3-1941 and to request you to supply Portland cement as hereunder specified.

| Permit No. | Period         | For sale to                                      | Quantity tons |
|------------|----------------|--------------------------------------------------|---------------|
| 785        | October, 1941. | Municipality of Tulkarm<br>(For Drainage Scheme) | 20 Tons.      |

This permit is valid up to and including

Copy to :

Municipality of Tulkarm.  
Asst. District Commissioner,  
Tulkarm,  
Director of Medical Services, Jerusalem  
ref. his letter No. 22/27  
of 17.9.41.

I have the honour to be,  
Gentlemen,  
Your obedient servant.

(Sgd.) V. Kenniff

ASSISTANT DIRECTOR OF PUBLIC WORKS  
Competent Authority

T/11,



|      |  |
|------|--|
| 1871 |  |
| 1872 |  |
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| 1889 |  |
| 1890 |  |

22/27.

Director of Public Works,  
Competent Authority,  
Jerusalem.  
-----

Subject :- Release of Nesher Cement.  
Reference:- Your 8/8/1 of 9-9-41.

I hereby certify that the work in respect of which the materials are required, viz the local drainage scheme of Tulkarm, is essential for the health of the population and that the quantity of cement applied for is the minimum required for the undertaking and that no other material may be substituted.

SE to me

B2/R.

  
DIRECTOR  
MEDICAL SERVICES

13.379.

GOVERNMENT OF PALESTINE

21

IN REPLY PLEASE QUOTE

PUBLIC WORKS DEPARTMENT,  
JERUSALEM.

No. 8/8/1.

DIRECTOR OF MEDICAL SERVICES  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE

9th September, 1941.

12 SEP. 1941

No.

25/75

14224

Director of Medical Services.

Subject:- Release of Nesher Cement.

The Municipality of Tulkarm have applied through the Assistant District Commissioner, there for a permit to purchase 20 tons of Nesher cement and I wish to know whether you are prepared to issue a Certificate under rules of War Supply Board that the object for which the cement is required viz, the local drainage scheme, is essential and the quantity the minimum required for the undertaking.

2. A copy of Assistant District Commissioner's letter to me is attached.

Asst. DIRECTOR OF PUBLIC WORKS.  
COMPETENT AUTHORITY.

V/11.



828088  
DISTRICT OFFICES,  
TULKARM.

2nd August, 1941.

Director of Public Works,  
Jerusalem.

Subject:- Permit to purchase "Nesher" cement

The Municipality apply to purchase 20 tons of "Nesher" cement for the Drainage Scheme at Tulkarm.

2. The length of the drainage is 1402 metres and the quantity is required for the construction of 32 chambers of Inspection of the size 120 x 80 x 250 centimetres each.

3. The expenses of this scheme were supplied to the Municipality by Government out of the general grant to Municipalities and Local Councils 1940/41.

4. Application is recommended.

(Sgd.)

for ASSISTANT DISTRICT COMMISSIONER  
TULKARM.

No. A 339259

N.B. This portion to be sent within 15 days to District Health Office

מחלקת הבריאות DEPARTMENT OF HEALTH دائرة الصحة

NOTIFICATION OF A BIRTH OCCURRING IN A VILLAGE

تليغ وقوع ولادة في قرية إيدעה عيد لדה בכפר

1. Name of Village قرية  
שם הכפר
2. Date of Birth تاريخ الولادة  
יום הולד
3. Name of Infant اسم المولود  
שם הילד
4. Sex ذكر أم أنثى  
גבר או אישה
5. Name and Age of Father اسم وأمر الأب  
שם האב ועمر
6. Religion of Father מדינה  
דת
7. Nationality of Father מדינות  
המדינה של האב
8. Place of Residence of Father מקום  
המגורים של האב
9. Name and Age of Mother اسم وأمر الأم  
שם האם ועמ
10. Name and address of person notifying Birth to Mukhtar שם וכתובת האדם המודיע על הולדת הילד למקhtar

11. Signature or Mark of Mukhtar אعضاء مختار أو عتمه  
חתימת של המחזור או סימן המחזור שלי

12. Date التاريخ  
תאריך

44/22/27

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

20

S.M.O.  
Samaria District,  
Nablus.

9-JUN 1941

18

Subject:- Sewerage extension and sewage disposal  
proposed at Tulkarem.

Reference:- Further to my 44/22/27 of 5.5.41.

In reference the above, the Sanitary Engineer of the Department discussed the final details of the projected scheme at a joint meeting held at the Municipal offices on the 29th May.

The conclusions arising therefrom are set out below, viz:-

1. Sewerage scheme

(a) The average water consumption appears to be 8 galls. per head per day: A 50% increase, i.e. 12 galls. was accepted as a reasonable basis for sewer design purposes.

(b) The total population of the area to be served by the sewerage extension was estimated to be 3900. As the area concerned ~~was~~ is practically fully built up, and the population density already exceeds that permitted under the Town Planning regulations, this figure of 3900 was accepted as an absolute maximum not likely to be subject to increase in the future.

(c) On this basis, assuming that the water consumption from private wells and cisterns is at the same rate as mentioned above, the size of pipes required (at the pre-determined gradients and assuming half the total discharge to reach the sewers in 6 hours

P.T.O.

i.e. Dry weather flow x 2) was found to be 6": No objection will be raised however, to the use of 8" pipes from manhole 25 onwards.

2. Sewage disposal

(a) Properly designed sewage treatment works should be installed as soon as possible: The existing sedimentation tanks should meanwhile be desludged and cleaned out, before the new sewerage scheme is ready for operation.

(b) No objection will be raised to the discharge of liquid effluent into the percolating pit system previously used by the military authorities. The route to such system however, which is situated on an undeveloped area beyond the land of the Agricultural School, requires to be finally settled; and should form the subject of a plan and sectional profile to be submitted to this office.

The proposals here involved will only be approved on condition that any nuisance due to overloading of the abovementioned pit be immediately followed by an extension of the system in the form of additional pits.

  
DIRECTOR  
MEDICAL SERVICES.

Copy to:- The Mayor, Tulkarem.

M.O.H. Tulkarem.

SEU/L.

8439-41

✓



note for file. Tolkarem - sewerage scheme; 1941: Analysis of data.

19

Total population = 6400.

Water consumption (municipal supply) =  $\frac{3800 \text{ m}^3}{30 \text{ days}}$  = 27866 galls.

Contributory population = 870 families  $\times$  6 persons = 3420

Thus daily water consumption per head =  $\frac{27866}{3420}$  = 8 galls.

(It is presumed that the remainder of the population, i.e. 2980, derive their water from private wells & cisterns; the consumption being at a similar rate = 8 galls).

For drainage discharge purposes, take 8 galls + 50% = 12 galls. hd. dy

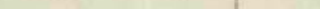
Assuming present population, of whom 10 to be drained, is at maximum (density); population contributing to sewer at various points will be:-

- (1) At manhole 17: 2600  
(2) At manhole 25: 2600 + 500 = 3100  
(3) At manhole 30: 3100 + 500 = 3600  
(4) Section 34 - 39: 3600 + 300 = 3900.

For peak flows, assuming half total discharge reaches sewer in 6 hours

- |     |      |         |          |          |          |       |   |                                                             |   |                         |
|-----|------|---------|----------|----------|----------|-------|---|-------------------------------------------------------------|---|-------------------------|
| (1) | 2600 | persons | $\times$ | 12 galls | $\times$ | 2 DWF | = | $\frac{62,400 \text{ galls day}}{24 \times 60 \times 6.25}$ | = | 7.2 ft <sup>3</sup> min |
| (2) | 3100 | "       | "        | "        | "        | "     | = | $\frac{74,400 \text{ galls day}}{24 \times 60 \times 6.25}$ | = | 8.3 "                   |
| (3) | 3600 | "       | "        | "        | "        | "     | = | $\frac{86,400 \text{ galls day}}{24 \times 60 \times 6.25}$ | = | 9.6 "                   |
| (4) | 3900 | "       | "        | "        | "        | "     | = | $\frac{93,600 \text{ galls day}}{24 \times 60 \times 6.25}$ | = | 10.4 "                  |
- OVER

|                           |     |                      |            |         |
|---------------------------|-----|----------------------|------------|---------|
| (1) @ 7.2 ft <sup>3</sup> | min | gradient of 1 in 63; | 50 pipe =  | inches. |
| (2) = 8.3                 | "   | "                    | " 1 in 39; | "       |
| (3) = 9.6                 | "   | "                    | " 1 in 19; | "       |
| (4) = 10.4                | "   | "                    | " 1 in 22; | "       |

|         |                                                                                   |     |   |   |                      |
|---------|-----------------------------------------------------------------------------------|-----|---|---|----------------------|
| an dick |  | 800 | " | @ | 8"                   |
| "       | "                                                                                 | 335 | " | @ | 6". (1-17 = 263-50). |
|         |                                                                                   |     |   |   | (17-28 = 135-00).    |

Subject.

El/22/27.

Env. H. sec.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

18

S.H.O.

Samaria District,  
Nablus.

5 APR 1941

Subject:- Sewage Disposal at Tulkarm.

In reference the above and the joint meeting which was held in connection therewith at Tulkarem on the 2nd instant, the Sanitary Engineer of the Department summarises his recommendations as follows:-

(a) The Municipal Engineer will be advised on the sewerage extensions, in connection with the above, on submitting plans and profiles of the streets concerned, together with relevant data regarding water consumption population, etc., as explained at the meeting.

(b) The proposal to instal proper sewage treatment works and effluent disposal works on a more suitable site than that at present in use (the inadequacy of which has been predicted on several occasions), is noted with satisfaction and given full support by this office.

(c) The site, as previously recommended and endorsed herewith, should be well removed from any existing or potential building area; be located so as to enable the sewerage of the whole town to reach the works by gravity, and at the same time, provide proper and adequate facilities for the disposal of the liquid effluent.

(d) A site which appears likely to fulfil these requirements, is located in the land of the Agricultural School north-west of the Town; and thus sufficiently leeward of the prevailing wind.

*Agmt D.H.S. to be  
try = 4 4 1/2*

(e) So far as practical factors are concerned in this issue, the most difficult matter will be the disposal of the effluent. The treatment works should therefore be sited near the existing wadi and sufficiently high in the natural slope towards the railway to provide an adequate area of soil for irrigation either by open channel or subsoil distribution. The alternative to the latter system will be disposal by percolating pits driven into the gravel sub-stratum; and similar to the one constructed for the local military camp. The number and disposition of these pits, should the above-mentioned irrigation system not be desired by the school authorities, should be based on the experimental data referred to at the meeting.

2. I should be glad if you would take this matter up with the Assistant District Commissioner, with particular reference to the principles involved in the use of the site.

*J. L.*  
DIRECTOR  
MEDICAL SERVICES.

5.293-5.

Copy to:- Assistant District Commissioner, Tulikarem.  
M.O.H. Tulikarem.

SEUS.

7



22/42.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

20 AUG 1940

12

*Copy to 22/27*  
A/S.M.O.  
Samaria District,  
N a b l u s .  
-----

Subject:- Sewerage loan works at  
Talkarna and Qalgilieh.  
Reference:- Your 7/6 of 30.7.40.

In reference to the above, the subject of a visit by the Sanitary Engineer of the Department on 13.8.40 at the request of M.O.H. Talkarna, the matters discussed at the respective meetings are summarized herewith as follows:-

(a) Talkarna.

The scheme proposing a ring extension of the main sewer should be prepared on the basis of the requirements set out in my 22/27 of 13.3.40; although concrete pipes may now be used instead of stoneware (para.c): As a safe minimum, no sewerage pipe should be less than 6" in diameter; whilst figures for virtual estimated discharge, velocity and hydraulic mean depth should be given at all main junctions in relation to the size of sewer selected and gradient proposed.

The route of the sewer as originally delineated is considered satisfactory, but consideration should be given to the question of improving and extending the present sewage disposal arrangements; whilst measures should be taken to legally enforce the provision of lateral street sewers and the connection of house drains to same by property owners.

(b) Qalgilieh.

The proposal to remove the sewage effluent from its present point of discharge near to the village is

./.

strongly supported, a pipe laid from the existing percolating pits to a site in the wadi beyond the railway being recommended for the purpose.

The pipe may be of concrete 8" in diameter and laid to a fall of not less than 1 in 150, the pipe being firmly anchored in the bed of the Wadi by an adequate covering of gravel or blocks of concrete at alternate joints; whilst inspection chambers should be provided at intervals not exceeding 60 metres run, the foundations of the chambers being continued beyond the base of the walls at least half a metre on either side, the slab-sealed top of each being left flush with the wadi bed.

8" concrete pipes may be obtained ex factory at a cost of 390 to 440 mils per metre run according to whether plain or reinforced, in which case the pipe system should cost little more than the stone culvert considered as an alternative; the former being in any case more accurate to construct in unitary lengths of 2 metres, and more efficient in operation.

2. As regards the latter scheme, it is recommended that application for detailed information and technical assistance in supervision etc., be made to the P.W.D. District Engineer at Habbus.

3. Arrangements for the supply and delivery of the pipes may be made with the Jerusalem agents "Engineering works and Supplies" (A. Koch) through the Director of Public Works, the latter being the competent authority for the issue of permits for "controlled" building material which includes cement.

A saving in cost may be effected should it be possible to order the material requirements of both Telkarm and Qalqiliyah at the same time.

22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

13 MAR 1940

A/S.M.O.  
Samaria District,  
N a b l u s.  
-----

Subject:- Sewerage extensions proposed  
at Tulkarem.

Reference:- Your 7/6 of 29.2.40.

In reference to the above, the plans have been duly scrutinised in this office, comment on this scheme (which was the subject of a recent visit of the Sanitary Engineer to the site), being made herewith in detail, as follows:-

(a) It is presumed that the brown lines indicate new lateral connections to the proposed main sewer extension: The size of the former, together with their respective gradients and estimated velocities of flow, should accordingly be stated.

(b) Such laterals should be planned so that the number of "dead ends" be reduced to a minimum: The means of effecting this, to provide for improved ventilation and a relief system of overflow against periods of maximum discharge, is by the inter-connection of the sewers in the form of a closed circuit; as now shown on the plan in pencil.

(c) Should any of these lateral sewers have a soil cover of less than 1 m. depth, the pipes thereof should be surrounded with a minimum of 10 cms. of concrete: It is presumed that such pipes will be of the salt-glazed stoneware type.

P.T.O.



(d) As regards the main 6" sewer proposed, the velocities should be given not only as regards the capacity of the pipes when half full, but as an estimation of actual flow conditions at all junctions, say at manholes 1, 7, 10, 17, 25, 30 and 39.

(e) An additional manhole should be provided between Nos. 13 and 17 in order to reduce the distance for "rodding" in case of blockage in this section of pipe.

(f) It is presumed that the sewage disposal works are of sufficient capacity for this additional drainage: It is in any case however, recommended that consideration be given to the improvement and extension of the works in the near future, the existing treatment system being unduly primitive and limited, for the disposal of large quantities of Town sewage.

2. One set of the plans is returned to you herewith, for final action on the above lines.

*Enc. 2 plans*

*[Signature]*  
DIRECTOR  
MEDICAL SERVICES.

SEUS.

5318.

*[Handwritten mark]*



7/5

U. S. S.  
Dept. of Health,  
Jerusalem.

DEPARTMENT OF HEALTH  
NABLUS

Date 25 FEB. 1940

No. ....

Subject:- Drainage - Tularem Town

Herewith plans in duplicate for a proposed  
drainage scheme in Tularem Town.

DIRECTOR OF MEDICAL SERVICES  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE

4 MAR 1940

22/27

*W. S. M. O.*  
N/S. M. O.  
SAMARIA DISTRICT.

*SEWAGE  
Plan Sp. 1*

5340

Sw. H.

4439

3rd. November, 1937.

S.M.O.  
Samarita & Gallilee,  
N A B L U S.  
-----

Subject:- Water Supplies - Tulkarm.

I. In connection with your request for an inspection and technical comment on certain water supplies at Tulkarm which have recently been giving unsatisfactory bacteriological results, the Sanitary Engineer visited the sites on the 27th October, his comments being set out below:-

(a) Town supply from well: It is obvious that this well, excavated or constructed in rough stone, situated at a low point of the town and adjacent to buildings, is subject to infiltration of fouled liquied (Probably from percolating pits, latrines and faulty drainage).

As to whether such contamination is confined to infiltration from the lower walls, or gains access directly through the water at the bottom of the well, cannot be decided without the separate testing of both samples of water: The remedy for the first case would be in the complete facing of the walls with waterproof concrete and cement, whilst the second case may be relieved by the installation of a sealed borehole pipe: Taking into account the expense of the former remedy however, and the uncertain results of both, the installation of a chlorinating Plant would appear to be the only sure method to be considered in the provision of a safe water supply.

./.





In view of the water from the well supplying two reservoirs sited in different parts of the Town, this plant would have to be installed adjacent to the well for treatment of the water prior to delivery to such reservoirs.

2. Private supply of Kadoorie Agricultural School: From an inspection of this well, the contamination recently indicated in the Bacteriological results would appear to be due to ingress of polluting material from the surface, the cover to the well not being properly closed: In addition a number of births had gained access to the well through a partly open section of the top cover and an open aperture in the lower (platform) cover.

In view of the good results previously appertaining to this well, it would appear sufficient remedy to have the above mentioned platform cover entirely sealed, by the provision of trap doors to the aperture referred to and a further aperture at present covered with chicken wire. Both these proposed doors and the head cover should be fitted with padlocks and kept locked except when inspection or work is required in the well.

The Principal of the School has apparently not been informed of the above unsatisfactory results in his water supply: It is recommended therefore that he be kept acquainted with such matters by the D.H.O. in the future, this including the results of water analysis after the execution of the above works.

II. The Sanitary Engineer also visited the Police Reformatory School with A/D.P.W. Mr. Jones in order to inspect the existing drainage system, and to make suggestions for its improvement in view of the



In view of the water level in the well

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unsatisfactory operation of the system during the past year.

General principles only were discussed, details being in the hands of P.W.D.

You will be kept in touch with developments in this scheme as they arise.

Sgd. J.W.P Harkness.

DIRECTOR

MEDICAL SERVICES.

SER.

22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.,  
Samarra & Galilee,  
Nablus.

13°  
5 JUN 1936

Subject :- New Sewer for Municipality  
of Tulkarem. 12°

Reference:- Your 7/6 of 12-5-1936.

I. The final plans of the above have been duly scrutinised; the scheme may now be approved subject to compliance with the following :- //

- (a) Item 1(b) of 22/7, 7-4-36: "All house drain connections to be provided with disconnecting manholes adjacent to the sewer".
- (b) Item 1(d) of 22/7, 7-4-36: "Heads of sewer to be provided with approved ventilation pipes". //
- (c) Gradient of sewer between manholes 1 and 2 should be reduced to 4% if possible by the provision of a back drop manhole.
- (d) Gradients on sewer section 15, 14, 13, 12, 11 and 4 should be stated on the plan.
- (e) Sewer line between manholes 2 & 3 should be amended if possible, to connect to manhole 3 in the direction of the flow, at an angle of not less than 90°.
- (f) All parts of the sewer having less than 1 meter ground cover should be surrounded with 15 cms. of concrete.
- (g) The disposal system does not appear to be sufficiently large: On a basis of 500 persons @ 8 gallons per head per day, the flow cycle would work out at 6 hours average or 3 hours under maximum conditions. As this is less than half of the period of quiescence generally allowed, the unit should be correspondingly increased in size.
- (h) As requested under 22/27 of 7-4-36 (item f), the arrangements for disposal of sludge should be stated; and be satisfactory in all respects.
- (i) The arrangement of the "Effluent" distributing pipes from the percolating pit, should be shown on the 1/500 scale plan. (See item (f) of 22/27, 7-4-36).  
The nature of the soil should also be stated.



(j) As requested under Item (g) of 22/27, 7-4-36, the last manhole prior to the disposal system should be provided with a trap or syphon for 'disconnection'.

II. One <sup>set</sup> ~~copy~~ of the plans is herewith returned.

*L*  
A/DIRECTOR,  
MEDICAL SERVICES.

6472

Enclos.

SEL.

Copy to SMO Haifa

ENCLOS - - 3 plans  
1 copy of letter

*J*



22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.,  
Samarra & Galilee,  
N a b l u s.  
-----

5 JUN 1936

Subject :- New Sewer for Municipality  
of Tulkarem.

Reference:- Your 7/6 of 18-5-1936.

I. The final plans of the above have been duly  
scrutinised; the scheme may now be approved subject  
to compliance with the following :-

- (a) Item 1(b) of 22/7, 7-4-36: "All house drain  
connections to be provided with dis-  
connecting manholes adjacent to the sewer".
- (b) Item 1(d) of 22/7, 7-4-36: "Heads of  
sewer to be provided with approved ventilation  
pipes".
- (c) Gradient of sewer between manholes 1 and 2  
should be reduced to 4% if possible by the  
provision of a back drop manhole.
- (d) Gradients on sewer section 15, 14, 13, 12,  
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- (e) Sewer line between manholes 2 & 3 should be  
amended if possible, to connect to manhole 3  
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of not less than 90°.
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- (g) The disposal system does not appear to be  
sufficiently large: On a basis of 500 persons  
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would work out at 6 hours average or 3 hours  
under maximum conditions. As this is less  
than half of the period of quiescence generally  
allowed, the unit should be correspondingly  
increased in size.
- (h) As requested under 22/27 of 7-4-36 (item f),  
the arrangements for disposal of sludge should  
be stated; and be satisfactory in all respects.
- (i) The arrangement of the Effluent" distributing  
pipes from the percolating pit, should be  
shewn on the 1/500 scale plan. (See item (f)  
of 22/27, 7-4-36).  
The nature of the soil should also be stated.

- (j) As requested under Item (g) of 22/27, 7-4-36, the last manhole prior to the disposal system should be provided with a trap or syphon for 'disconnection'.

II. One ~~copy~~<sup>set of</sup> of the plans is herewith returned.

*L*  
n A/DIRECTOR,  
MEDICAL SERVICES.

Enclos.

SEL.

*copy to SMO Haifa*

THE UNIVERSITY OF CHICAGO  
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REGISTERED

4723

DEPARTMENT OF HEALTH  
DISTRICT HEALTH OFFICE  
NABLUS.

7/6

120  
18 MAY 1936

Director of Medical Services,  
Dept. of Health,  
JERUSALEM.

-----  
Subject :- Sewer - Proposed by  
Municipality of Tulkerem.  
Reference:- Your 22/27 of 7-4-36.

Fresh plans containing particulars  
asked for are submitted herewith together with  
the comments of the Municipal Engineer re para(e)  
of your above quoted letter.

HK.

*Sam*  
S.M.O.  
SAMARIA & GALILEE.



7671

SE (U)

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Huff

2

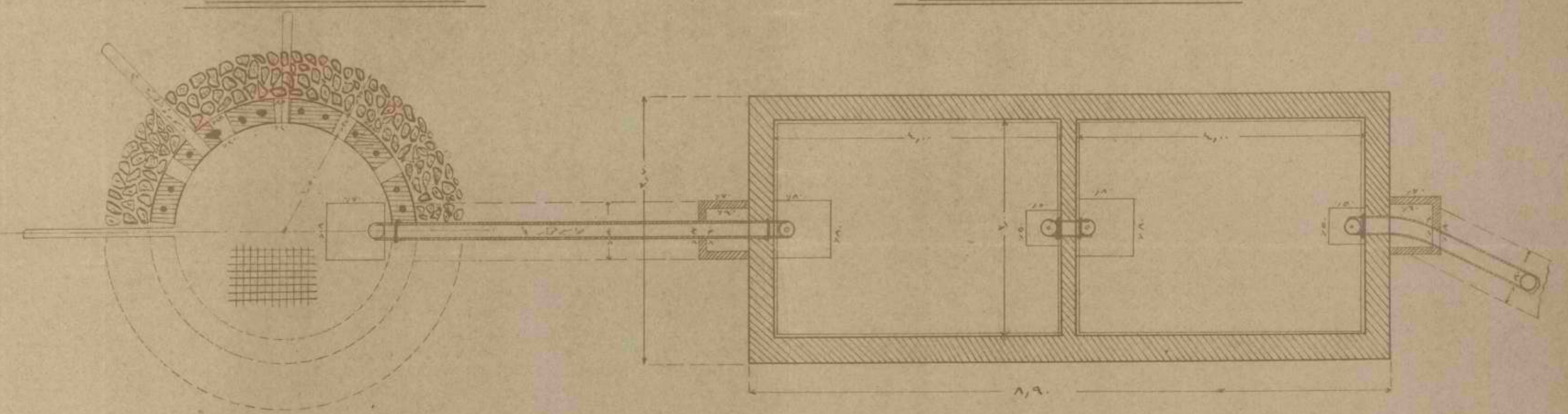


مقطع أفقي ٥:١

خزان الترسيب والتفيل

مقطع أفقي ٥:١

بئر الشرف المبيد

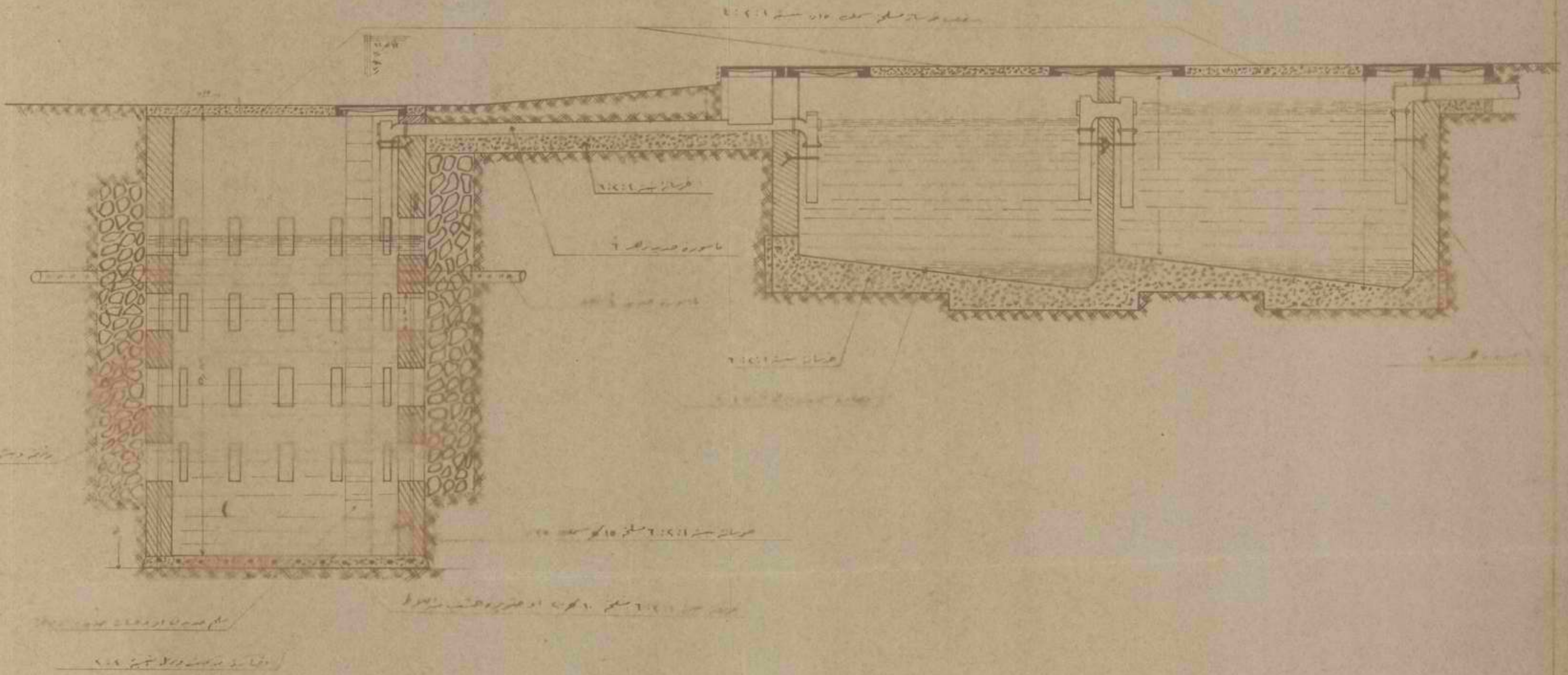


مقطع رأس

خزان الترسيب والتفيل ٥:١

مقطع رأس

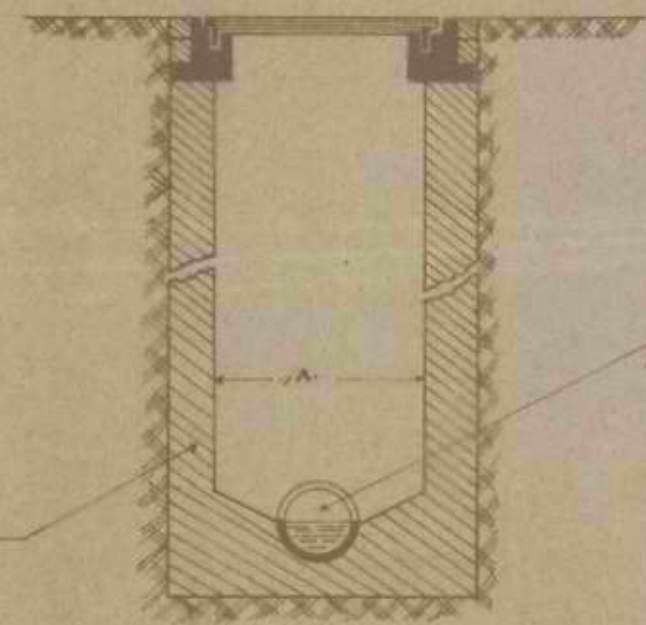
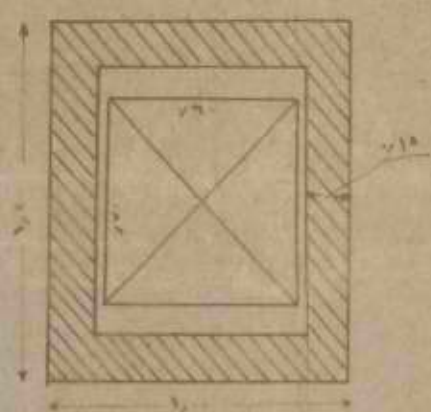
بئر الشرف ٥:١



مقطع رأس ٥:١

فرن القشيش للبرق السور والفرق

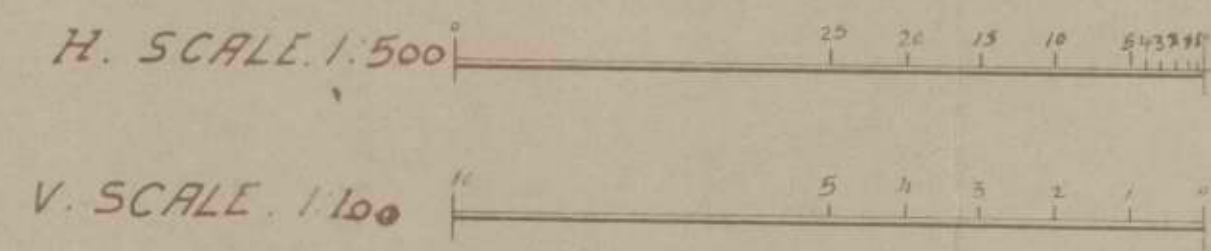
مقطع أفقي ٥:١



المكتب الفني للمهندسين المدنيين  
جودة بدوى شعبان

المدينة :  
المشروع :  
الشارع :  
صاحب المشروع :  
المهندس :  
التاريخ :  
جودة بدوى شعبان  
١٩٣٦ - ٢ - ٧







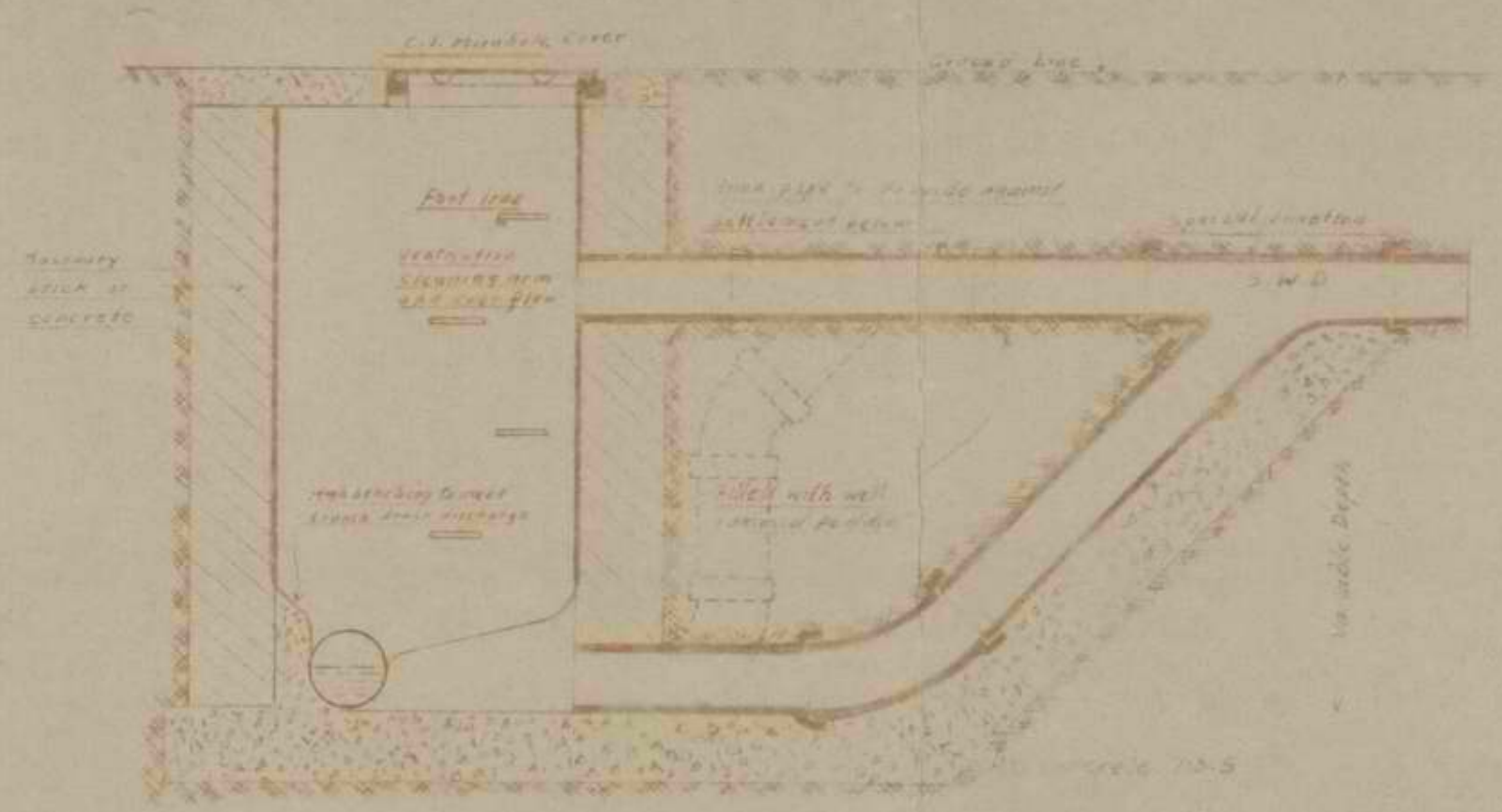
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| REFERENCE PLAN       |                |
| File No.             | 22/27.         |
| Serial No.           | 2              |
| Rec'd From           | St. Hall       |
| Date                 | 20.5.36        |
| Ref. No.             | 7/6 17 18-5-36 |
| Indexed By           | GB             |



- MAIN SEWER LINE
- R.I. ON LINE
- MANHOLES
- BUILDINGS
- STONE FENCE
- WIRE FENCE
- UNDIFFINE BOUNDARY
- STAIR CASE

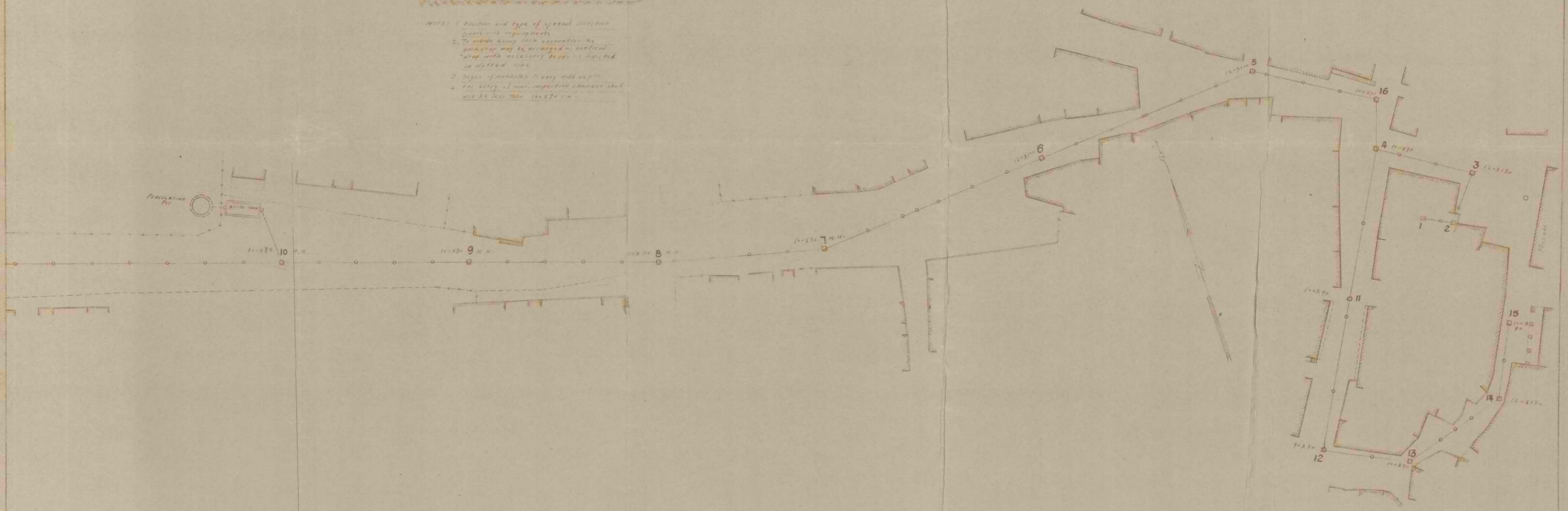
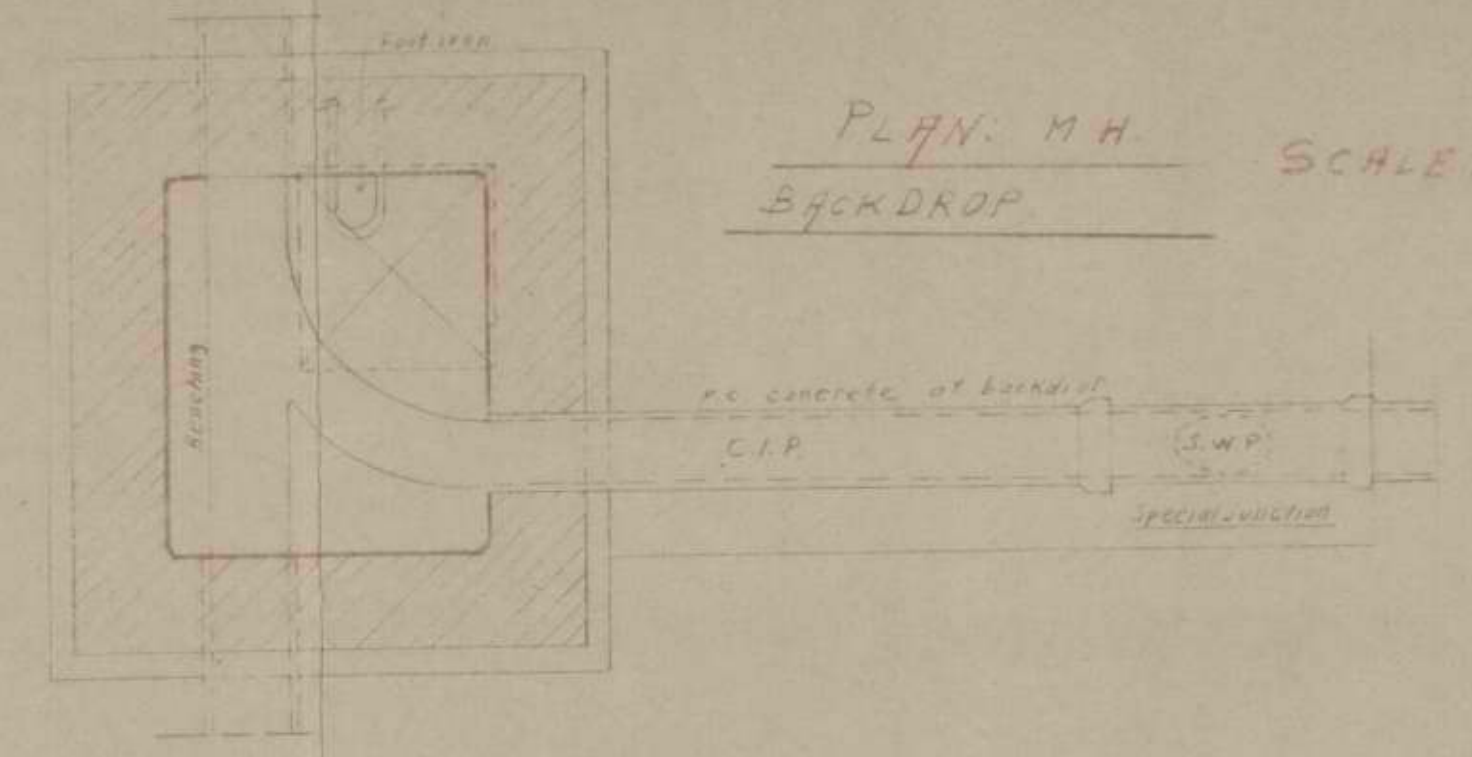
SCALE 1:500

M.H. SECTION STANDARD  
BACKDROP MANHOLE SCALE 1:20



- NOTES:
1. Position and type of special junction boxes with requirements.
  2. To provide heavy rain excavation the backdrop may be designed as vertical 'drop' with necessary boxes as indicated in dotted line.
  3. Segs of manholes to vary with depth.
  4. For safety of man, inspection chamber shall not be less than 100 x 70 cm.

PLAN: M.H. BACKDROP SCALE 1:20



C. ENGINEER  
J. B. SHABAN  
TULHARM.

الانجنيير  
جودت شوقي شهاب  
الطوبى كرم





سعادة ربنا الله المخلص  
 فهم من المصنفين الذين اهدوا الى الله البيت الى تصديقهم المبرر الذي قدسوا  
 فريضة حيث لله ١٠٠ مائة وثمانية بيت وعدد طائفا بعدة  
 قد بين بين فساد شرفا

١ - انه كل بيت في الدف الخاف بعدة اجماع يعرف ايضه غالوه  
 ما بين حقة فكان برأ وبنه العدة بمجه التقى ثلثه بين ثمانية  
 خلفاته من المار .

٢ - كانه في شاهدة القدي الى طلبة العلم على ان يله الاخره ولى  
 بعد عدة ونا لينا الى ماله ورجاه على الرقة الموهدة  
 بالمجهر . بل كونه الى طلبة مهجرة بالعلم عليه كفت ومنه الله  
 بعد المظالم على المملكات اعلاه انه يستفيد زنا وعلى  
 ما - وهو الكيف والمخلص تتقوا بقوله الموقر ا / ع / ٥ / ٦

المؤمن  
 اذنه لحسنه في طوله المخلص  
 ا / ع / ٥ / ٦

TRANSLATION.

No.12.

His Worship the Mayor,

It was understood from the last census that the number of houses connected to the main sewer is 105 occupied by 500 inhabitants.

As a whole, every house consumes 40 gallons of water daily i.e. 10 tins for each person or 8 gallons.

7 As I have not seen and I am not in possession of copy of the alterations or comments required on the last plan, I am unable to give full particulars.

The plan now being in the Public Health Department, the Sanitary Engineer can after reading my remarks stated above, obtain the necessary particulars.

(Sgd) Saad El Din

2-5-36.

ENGINEER.

124 )  $\frac{50}{9}$  40,000 / gallons per day.  
40,000  
180  
176  
40

181 m<sup>3</sup> : 48 m<sup>3</sup>

40,000  
1700 - 3



SECRET

THE HISTORY OF THE

It was introduced from the last  
section that the number of houses connected  
to the main sewer is 100 occupied by 500

THAT IS

At a whole, every house connected  
to the main sewer is 100 occupied by 500  
that is to say 5 houses.

And if we take into account the  
fact that the number of houses connected to  
the main sewer is 100 occupied by 500

that is to say 5 houses.

And if we take into account the

fact that the number of houses connected to

the main sewer is 100 occupied by 500

that is to say 5 houses.

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TRANSLATION.

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As a whole, every house consumes 40 gallons of water daily i.e. 10 tins for each person or 8 gallons.

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The plan now being in the Public Health Department, the Sanitary Engineer can after reading my remarks stated above, obtain the necessary particulars.

(Sgd) Saad El Din

2-5-36.

ENGINEER.

22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

7 APR 1936

S.M.O.

Samaria & Galilee,  
Nablus.

Subject:- Sewer, proposed by Municipality  
of Tulkarem.

Reference:- Your letter No.7/6 of 3-3-36.

I. In connection with the Sanitary Engineer's visit to Tulkarem on the 2nd inst., confirmation of the points discussed are herewith set out in detail:-

(a) The lines of the sewer may be agreed to, with the exception of the length marked "A-B" which may be improved by being straightened.

(b) Manholes may be reduced in number by being spaced at 60 metres intervals, intermediate house connections being made to sewer by means of proper "Y junctions".

All such house drains should be provided with a disconnecting manhole (complete with syphon and fresh air inlet) near the boundary of property, for purpose of inspections, rodding etc.

(c) All manholes may then be arranged as "Back-drop manholes" (see attached Standard Drawing S.47) in order to reduce the gradients to a minimum of 1/4", thus giving reasonable "self cleansing velocities" throughout the sewer at little extra cost.

(d) The "heads" of the sewer should be provided with ventilation pipes, 4" in diameter and carried at least 1 m. above any adjacent building in order to avoid "nuisance from smell etc.

./.





(e) As regards the principles involved in the "Disposal System", it is noted that this is only a temporary measure, the final works being proposed near the Railway Station, for the whole town (sewerage system).

The arrangement shown may, therefore, be agreed to for the present, provided sufficient figures are submitted in support of the capacity of such 'disposal' unit.

*in final remarks*  
These figures should include the "No. of people to be served (No. of houses x No. of people per house etc.)", the "amount of water available daily or used per person" etc. Some figures should also be included for the sewer, these including calculations for Hydraulic mean depth, velocity etc.

(f) The Septic-Settlement Tank should then correspond to the above conditions; the radiating pipes for distributing effluent from the percolating pit, being carried away from the boundaries. The arrangements for removal and disposal of sludge should also be stated.

A further percolating pit may be found necessary at a later date, this depending on the nature of the soil (7) the quantity of liquid for disposal and the length of time for which this system will be used.

(g) A trapped disconnecting manhole should be provided between the sewer and the above disposal unit.

II. Subject to satisfactory compliance with the above items, the scheme may be approved without further reference to this office.

The plan is herewith returned for the necessary amendments and final retention at your office.

*24-5-26*  
*129*  
Norman L. Maclean  
DIRECTOR,  
MEDICAL SERVICES.

Copy to:- S.M.O. Haifa.

Encls to MO NABUS

1 plan  
1 S.O. 47  
1 Cont. 46 report

3257

2

22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.  
Samaria & Galilee,  
Nablus.

---

Subject:- Sewer, proposed by Municipality  
of Tulkarem.

Reference:- Your letter No. 7/6 of 3-3-36.

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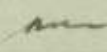
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II. Subject to satisfactory compliance with the above items, the scheme may be approved without further reference to this office.

The plan is herewith returned for the necessary amendments and final retention at your office.

  
DIRECTOR,  
MEDICAL SERVICES.

100

7/6

DEPARTMENT OF HEALTH  
DISTRICT HEALTH OFFICE  
NABLUUS.

Director of Medical Services  
Dept. of Health,  
JERUSALEM.

3 MAR 1936

Subject:- Proposed Drainage Scheme.

May the Sanitary Engineer come to Tulkarem  
one day this week to advise the Municipality  
on a small drainage scheme.

*[Signature]*  
S.M.P.O.  
SAMARIA & GALILEE.

WKB/HK.

DIRECTOR OF MEDICAL SERVICES  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
5-MAR-1936  
22/27

S.E.

Can you arrange

of

25-3-36

Will arrange  
with other visits.

Please B.F. 1 week  
HKS

2. 4. 36

Done. See report.

5629

SE

What exactly is  
the position at present?

How can the work

be calling for

tenders if there is

no plan or specification

of the work

to be done?

work  
completed  
rule

Q R

7

DMG(E)

2622-5

Evidently an old town drain  
to which ~~the~~ buildings will be  
connected direct.

Will please may advise on this  
matter.

24/5/31



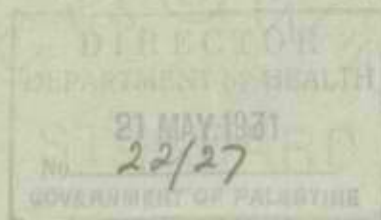
8a

7/6.

Director,  
Department of Health,  
Jerusalem.

Subject:- Tulkarem Drainage.  
Reference :- Your 22/27 of 10-4-31 & 3-5-31.

The Tulkarem Municipality has no funds  
for the making of plans at present.



7928

NABLUS  
18-5-31.

WKB/AS.

*[Signature]*  
S.M.O.  
SAMARIA & GALILEE

7

10-4-51

22/27.

70  
DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.

Samaria & Galilee,  
Nablus.  
-----

Subject :- Tulkarem Drainage.

Reference:- My 22/27 of 3-5-31.

Please expedite reply to my above  
quoted letter.

h DIRECTOR.

4901.

E2C.

7  
6/1/31  
8/1/31



22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

S.M.O.  
Samarra & Galilee,  
Nablus.  
-----

6a  
8 MAY 1931

Subject:- Tulkarem Drainage.  
Reference:- My 22/27 of 10-4-31.

5a

Will you please report action  
taken by you on paras. 2 and 3 of my  
above quoted letter.

DIRECTOR.

4507

E2P.

7  
11/5/31

22/27.

DEPARTMENT OF HEALTH  
GOVERNMENT OF PALESTINE  
JERUSALEM.

19 APR 1931

S.M.O.  
Samaría & Galilee,  
Nablus.  
-----

Subject:- Tulkarem Drainage.

Reference:- Your Monthly Report February 1931  
and conversation of the M.O.H.  
Tulkarem and the Sanitary Engineer,  
Department of Health.

Para.7 Drainage - The Municipality has  
invited tenders for joining the group of houses  
in the market street to the main drain.

2. It is desirable to obtain a plan of the  
drainage scheme as completed, with any extensions  
and details proposed for the disposal system.

3. A general scheme should be prepared that  
will enable a development of the sewerage system  
in progressive stages.

4. Information as noted in this office letter  
No.E4/22/27 of 13-4-27 may have been arranged  
during this period of time.

SEP.

  
DIRECTOR.

2802

7  
SF  
11/1/31

SMC (E)

42

SMC. Samaria + Galilee

Monthly Report - Feb. /31.

+ Conversation with MCH. Fulkerson

Para. 7. Drainage

Municipality has invited tenders  
for house connections to main drains  
at market St.

It is advisable to obtain a plan of  
the drainage scheme prepared for  
Fulkerson.

● To my knowledge, no plans have  
been approved for this town area and  
it is essential that such sewerage  
schemes shall be counterchecked by this  
office for future developments.

ask SMO Samaria to obtain 3/4/31  
plan if such was not already  
submitted. V. L.

Letter E4/12/31  
mobile 12



EA/22/27

36  
13 APR 1927

Proposed drainage scheme - Tulkarem.  
Reference:- Your 433/4 dated 26.3.27.

District Commissioner,  
Northern District,  
H a i f a.

-----

I attach a note prepared by the Sanitary Engineer which indicates the information which must be accumulated before a scheme of drainage can be prepared for the town.

2. The first step is to get an accurate survey carried out and the council should include provision for this in their estimates.

3. The work of survey should be accorded to a reliable firm and I recommend that the Director of Surveys be consulted in this respect.

Enc: 2 sheets.

S.E. To see

*for Harkness*  
for DIRECTOR.

Copy to:- S.M.O. Samaria & Galilee, NABLUS.

ELF.

3327

7  
JA

PROPOSED DRAINAGE SCHEME - TULKAREM.

Procedure to be adopted by the Municipality for preparing a complete drainage scheme for the town shall cover the following details,- elaborating your items of (a) Survey, (b) Water Supply, (c) Density of population and (d) Special Study.

(A) SURVEY.

1. Preparation of a reliable map, plans and sections, with topographic alignment for the town area and the proposed location of the disposal system.
2. Town planning developments proposed.
3. Built on areas - Business premises, dwellings, institutions, special buildings, and paved areas.
4. Unbuilt areas - prospective expansion during next 30 years.
5. Drainage areas to be defined for priority of work.
6. Existing drainage lines, location and description, size, gradients, capacity, present outfalls and conditions.
7. Storm water disposal essential for a separate, combined or compound system at special parts of the town.
8. Rain fall figures for past periods - max. and min.
9. Sections of profiles of streets for proposed sewer alignments.
10. Natural drainage lines, with present storm water discharge.
11. Private roads, as affected.
12. Population - present and anticipated during next 30 years.
13. Number of houses affected for immediate work.
14. Existing house sanitation and drainage connections.
15. Soil conditions at various areas to determine excavation costs etc.



(B) WATER SUPPLY

1. Sources, present and proposed developments.
2. Quantity and consumption per capita, present and future.
3. Number of houses provided with town supply.
4. Number of houses depending upon cisterns or otherwise wells.
5. Possibility of extending town supply to various houses under (B4)

(C) GENERAL.

1. Financial allocation in budget allowable annually.
2. Period of time during which Municipality proposes to extend the operations.

This information is essential to advise on a system that will enable the preparation of a complete scheme and permit the normal development on a progressive basis.

*[Signature]*  
Sanitary Engineer



Proposed drainage scheme - Zulkeram

Procedure to be adopted by the Municipality for preparing a complete drainage scheme for the town shall cover the following details, - elaborating your items of (a) Survey, (b) Water Supply, (c) Density of population and (d) Special study.

- (A) Survey - 1. Preparation of a reliable map, plans and sections, with topographic alignment for the town area and the proposed location of the disposal system.
2. Town planning developments proposed.
3. Built-up areas - Business premises, dwellings, institutions, special bldgs. and paved areas.
4. Unbuilt areas - Prospective expansion during next 30 years.
5. Drainage areas to be defined for priority of work.
6. Existing drainage lines, location and description, size, gradients, capacity, present outfalls and conditions.
7. Storm water disposal essential for a separate, combined or compound system at special parts of the town.
8. Rainfall figures for past periods, max. and minimum.
9. Sections or profiles of streets for proposed sewer alignments.
10. Natural drainage lines, with present storm water discharge.
11. Private roads, as affected.
12. Population - present and anticipated during next 30 yrs.
13. Number of houses affected for immediate work.
14. Existing house sanitation and drainage connections.
15. Soil conditions at various areas to determine excavation cost.

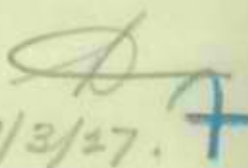
(B.) Water Supply.

1. Sources, present and proposed developments.
2. Quantity and consumption per capita, present + future.
3. Number of houses provided with town supply.
4. " " depending upon { cisterns or otherwise.  
wells
5. Possibility of extending town supply to various houses under (B4).

(C.) General.

1. Financial allocation in budget allowable annually.
2. Period of time during which Municipality proposes to extend the operations.

This information is essential to advise on a system that will enable the preparation of a complete scheme and permit the normal development on a progressive basis.

31/3/27. 

12

In reply please quote  
No. 433/4

DISTRICT COMMISSIONER'S OFFICES,  
HAIFA.

26th March, 1927

Director of Health  
Jerusalem.  
-----

Subject :- Proposed Drainage Scheme -  
Tulkeram.

Reference:- Attached copy of decision by  
the Municipal Council -Tulkeram.

I shall be glad if the Sanitary Engineer may  
kindly advise as to the procedure which should be  
adopted by the Municipality for preparing a complete  
drainage Scheme for their Town.

*San Eng.  
Sanitary  
& water supply  
& drainage  
of Jerusalem city.  
New advice*

OM.

DIRECTOR  
DEPARTMENT OF HEALTH  
28-MAR-1927  
E4/22/27  
GOVERNMENT OF PALESTINE

*for* *an* *for*  
DISTRICT COMMISSIONER.

4315

*6*  
*7*

14  
COPY.  
-----

District Officer.  
Tulkarem.

As Tulkarem town is continually progressing and becoming larger from day to day, the existing drains though not technically made have become not sufficient and subject to destruction at any time. It is therefore necessary to construct general drains, which the Municipality cannot undertake to do at one stretch, and for this fact it has been decided at the outset to prepare a draft scheme for drains in accordance with a technical plan approved by the Government according to which work will be done annually as much as the allocation in the budget may permit, and so until the whole construction is completed.

2. Submitted to the Government for approval of the scheme and sending down a technical man to do the necessary action, please.

SGD. MAGLIS BALADI TULKAREM.

Passed to District Officer.  
Tulkarem.

SGD. ABDEL RAHMAN

MAYOR TULKAREM.

6.2.1927.



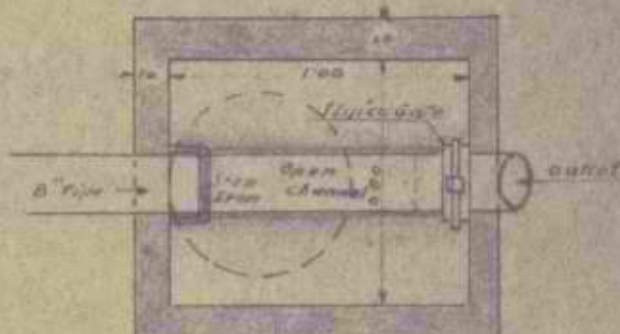
# PERMANENT SUPPLY MANHOLE

Ser. No 7/19/43

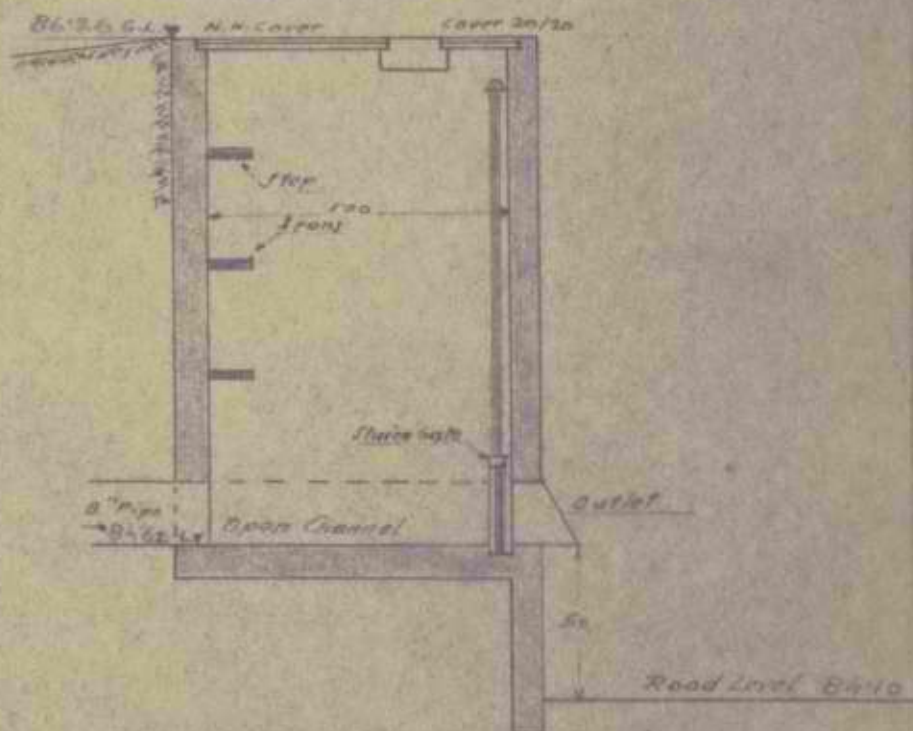
Scale 1:25

J. R. R. R.  
25.3.43

## PLAN



## SECTION







TULKAREM

SHEET 2.

Ly. O. Kelly.  
222.45

SCALES: 1:1000  
1:100

## LONGITUDINAL SECTIONS







# SEWAGE DISPOSAL UNIT

FOR 36 m<sup>3</sup>

Scale 1:25

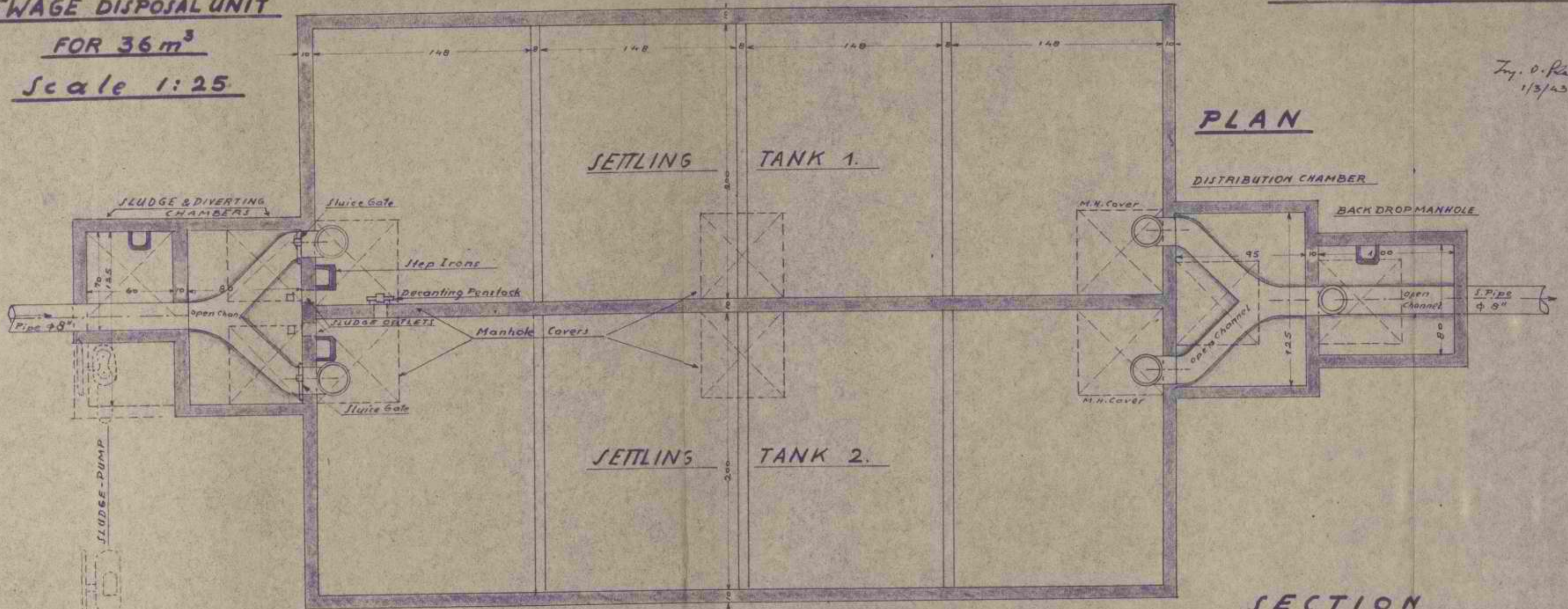
Ser. No. 7/SK/43 Sheet No 3

Eng. O. Kelly  
1/3/43

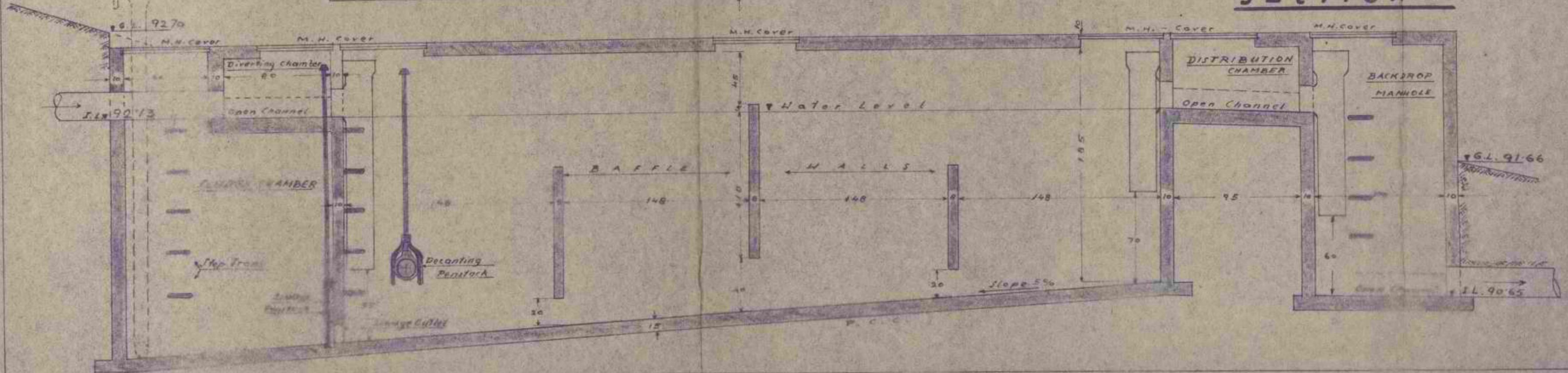
SETTLING TANK 1.

SETTLING TANK 2.

PLAN



SECTION









SCALE 1:1250

TULKARM MUNICIPALITY

DRAINAGE

الحديقة

PUBLIC GARDEN

OLD CITY

EXIST DRAINAGE

شارع البصرة  
Basrah Street

Proposed New Drainage

Proposed New Drainage

شارع السليمانية  
Sulaymaniyah Street

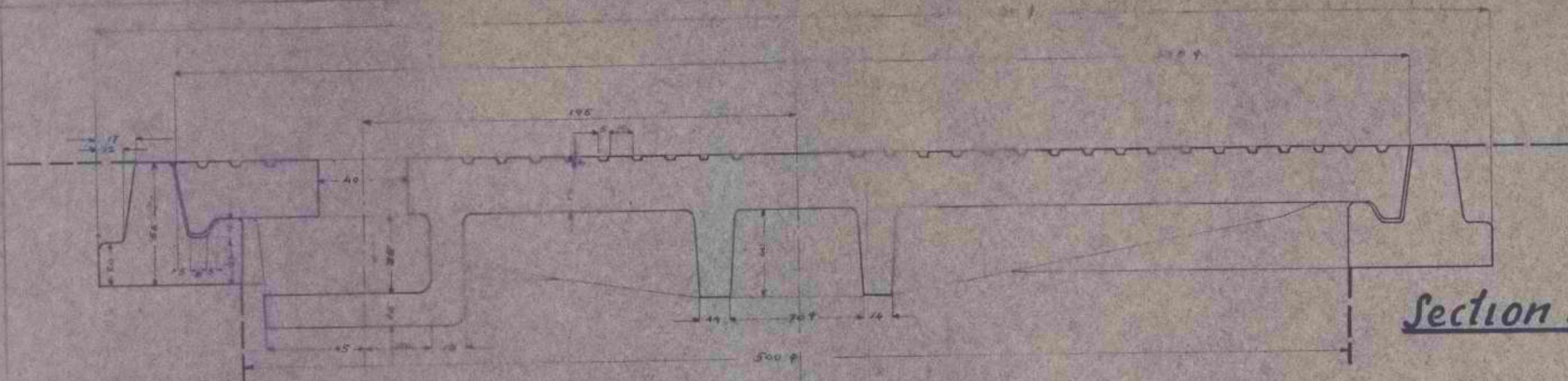
شارع السليمانية  
Sulaymaniyah Street





ENCLOSURE No. 1  
REC'D FROM Suro. Hable  
REF. No. 7/6 DATE 29.2.40  
D.M.S. FILE No. 22/27 FOLIO

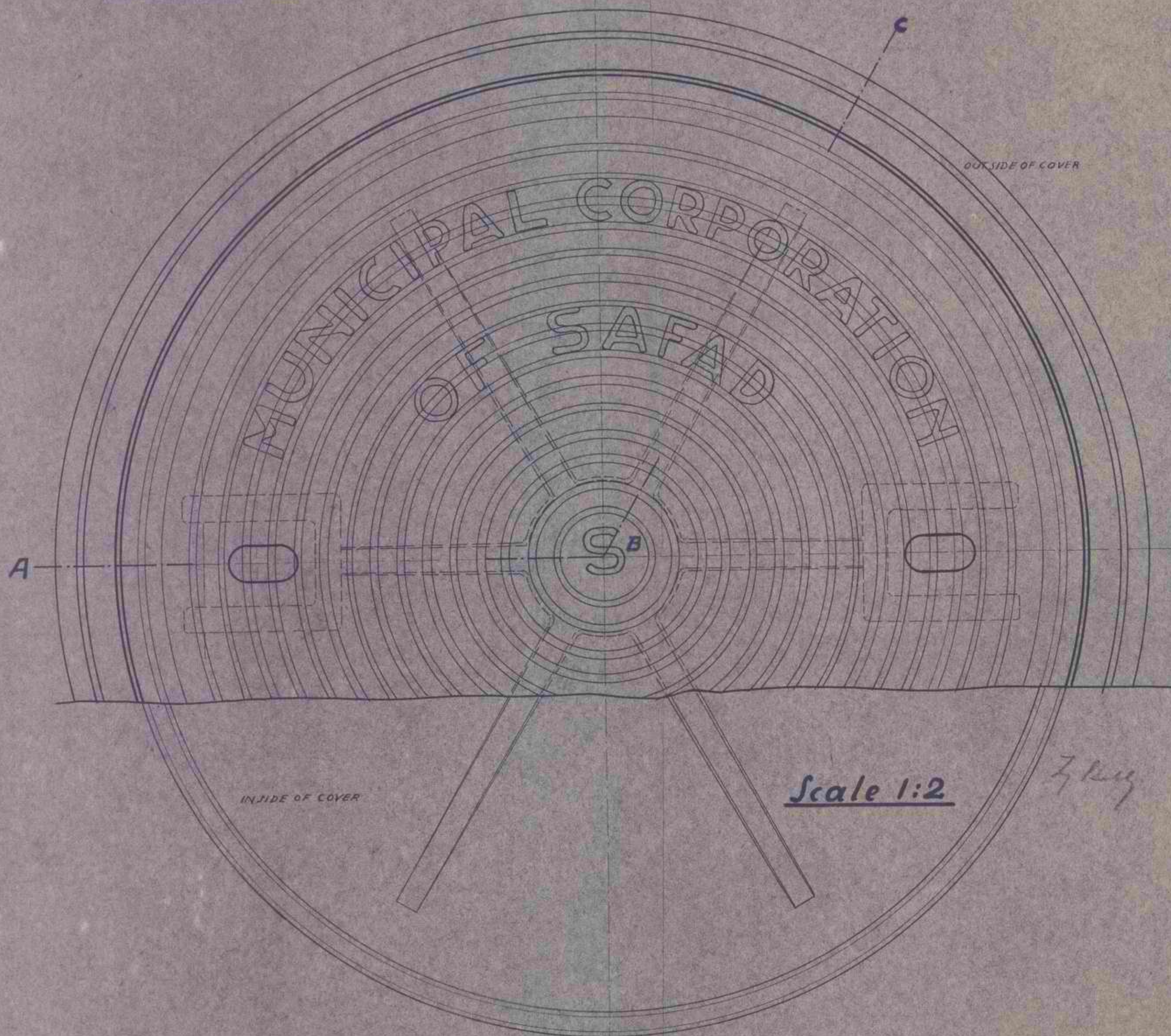




Section A-B-C

ad. Ser. No 7/5K/43

MANHOLE COVER (ANTIMALARIA)



OUTSIDE OF COVER

INSIDE OF COVER

Scale 1:2

Z. Kuy



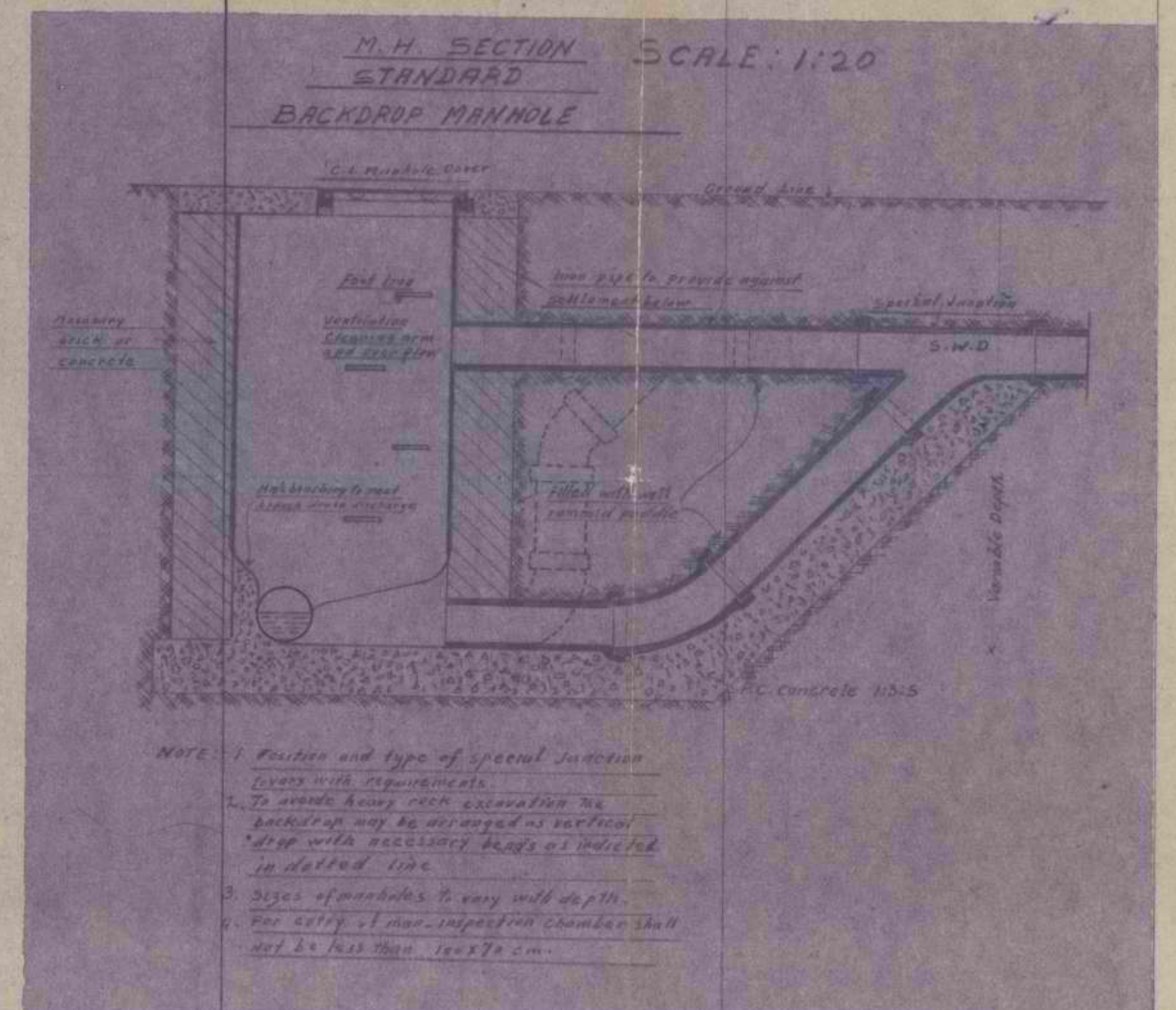
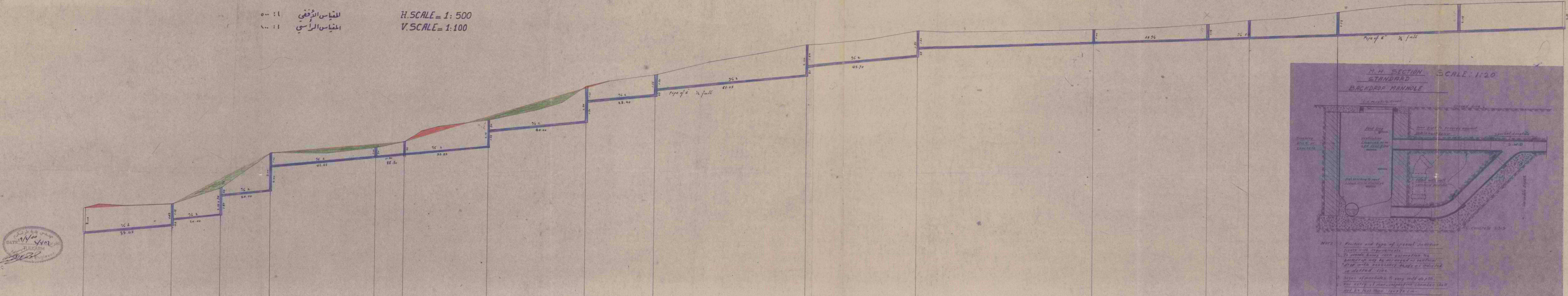
بلدية طولكرم  
 شارع الحديقة الشرقي والحبيب ، وداخل شارع الحديقة الشمالي

المقياس الأفقي 1 : 500  
 المقياس الرأسي 1 : 100

TULKARM MUNICIPALITY  
 DRAINAGE

H. SCALE = 1 : 500  
 V. SCALE = 1 : 100

19/4/50  
 TULKARM  
 MUNICIPALITY



| STATION NO          | 39    | 38    | 37    | 36    | 35    | 34    | 33    | 32    | 31    | 30    | 29    | 28    | 27    | 26    | 25    | 24    | 23    | 22    | 21    | 20    |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GROUND LEVEL        | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 | 40.00 |
| EXCAVATION          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| FILLING             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| VELOCITY & QUANTITY |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

V = 5.00 feet per second  
 Q = 29.48 cfs per minute

V = 4.33 feet per second  
 Q = 28.41 cfs per minute

رقم ملف التفتيش  
 تسوية الأرض  
 حفر  
 امتلاء  
 السرعة والعمق



..CLOSURE No. 3  
JOB FROM *Amo habb*  
REF. No. 76 DATE 29.2.40  
D.M. & FILE No. 24/27 FOLIO



# SEWAGE DISPOSAL SCHEME TULKAREM

LAY - OUT

Scale 1:1000

Ser. No 7/SK/43

SHEET A.





ENCLOSURE No. 1 to  
L. or No. 54/23/20 dated 27.5.43.  
From Director of Health  
F.R.L.

CONTROL  
AND DIRECTORATE  
28 MAY 1943  
REGISTRY